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Improved Guards
Improved Lubrication

Regan Forge & Engineering Co.
Oil Field Equipment
Plant and General Offices
SAN PEDRO, CALIFORNIA, U. S. A.

Advertisers' Index on Page 33

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Where Men, Methods *and* Machinery Meet ...

Many millions of dollars worth of the very latest equipment for the petroleum industry ... the newest methods developed in laboratory, plant and field ... oil and gas men from the four corners of the world .... all meet at the International Petroleum Exposition.

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TULSA, OKLA. U.S.A. AND CONGRESS OCT. 5-12. 1929

The WORLD'S FAIR of the OIL INDUSTRY

Gas Line Valve *without* By-Pass For 500 lbs. Working Gas Pressure.

WALWORTH DOUBLE DISC TEST PRESSURE GAS LINE GATE VALVES

Gas Line Valve *with* By-Pass For 500 lbs. Working Gas Pressure.

A Complete Line

The 16″ double disc valve with by-pass gear operated, illustrated here, is a new Walworth Steeliron valve for gas lines —rated for 500 lbs. Working Gas Pressure.

From the small 2″ iron body valve on a water line to the monster 24″ gear operated iron body valves, Walworth's iron body, double disc valve line is complete, with sizes and types for every purpose and pressure where iron body valves are practicable to use.

Within the past few years Walworth has developed lines of double disc iron body gates especially for the oil industry, but also suitable for other service.

The double disc, parallel seat action of these valves is quick and positive, reducing leakage problems to a minimum and assuring long, reliable service. Including the 700-lb. test line, these valves for the higher pressures are made of Steeliron; and all lines, including the standard weight valves, are bronze mounted, with bronze stems.

Pressure ratings are as follows:

Standard	175 lbs. Cold Oil, Water or Gas
700 lb. Test	400 lbs. Cold Oil, Water or Gas
1000 lb. Test	500 lbs. Cold Oil, Water or Gas
1600 lb. Test	800 lbs. Cold Oil, Water or Gas.

Gas Line Valve 500 lbs. Working Gas Pressure

At the Sixth International Petroleum Exposition and Congress, Tulsa, Oklahoma.

In booths 104, 105, 106 and 107, Oklahoma Building, Walworth is showing a complete line of valves, fittings, and tools, and Walworth C.N.I. Pipe.

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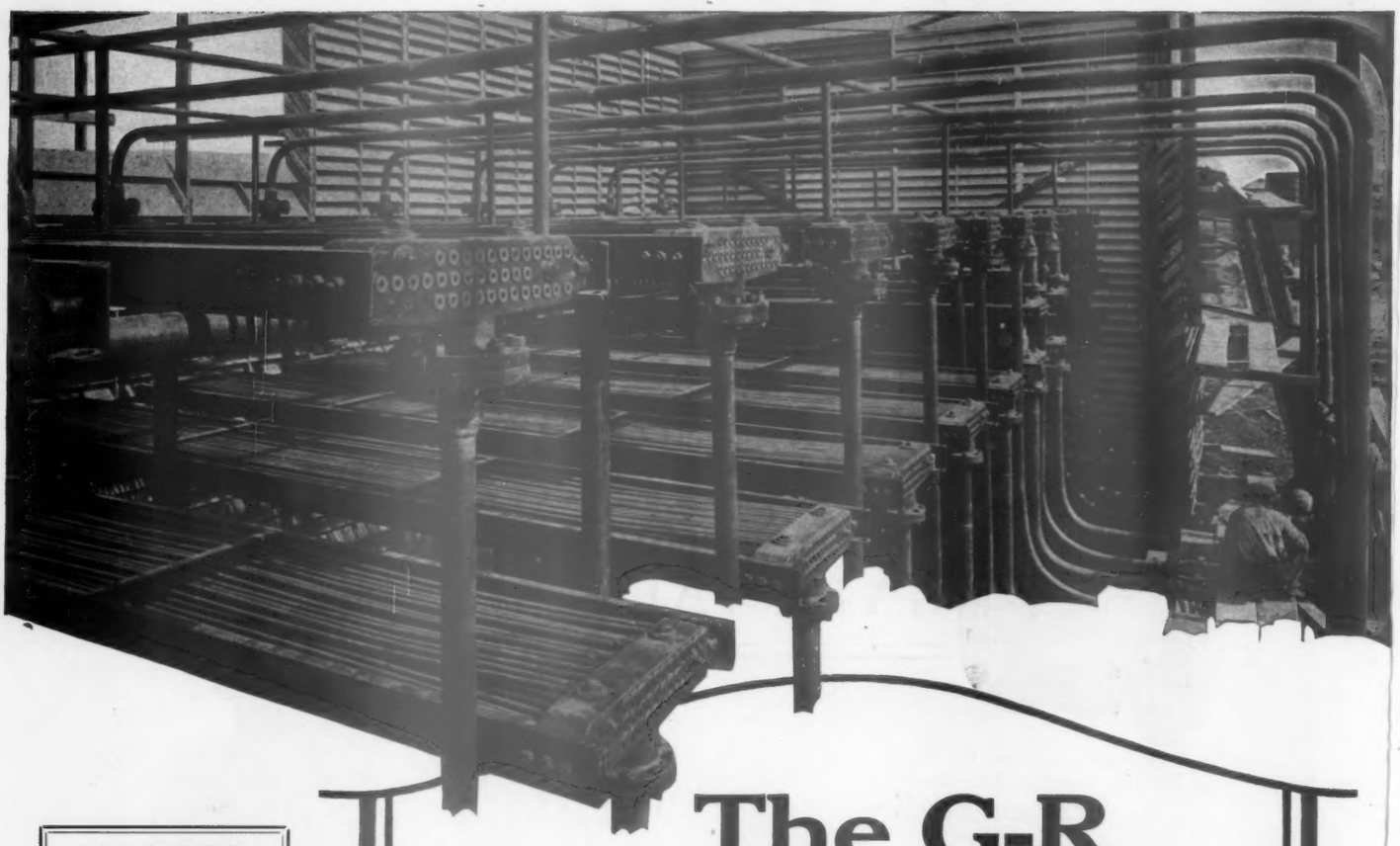
The Oil and Gas Journal, issued weekly by The Petroleum Publishing Company, 114-116 West Second Street, Tulsa, Oklahoma. Subscription price $6.00 a year; 15 cents a copy. Entered as second-class mail matter December 15, 1911, at the post office at Tulsa, Okla., under the Act of March 3, 1879.



The G-R Bentube Section

FOR cooling gas, oil or jacket water, and for condensing vapors, is an atmospheric cooler that cracks off scale by the pronounced bowing of the tubes on change in temperature.

This scale-shedding action keeps the scale from building up to a thickness that would reduce the heat transfer rates below those for which the cooler is designed, and is effective even with poor quality cooling water.

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The G-R Bentube Section is fully protected by U. S. Patent 1,617,083.

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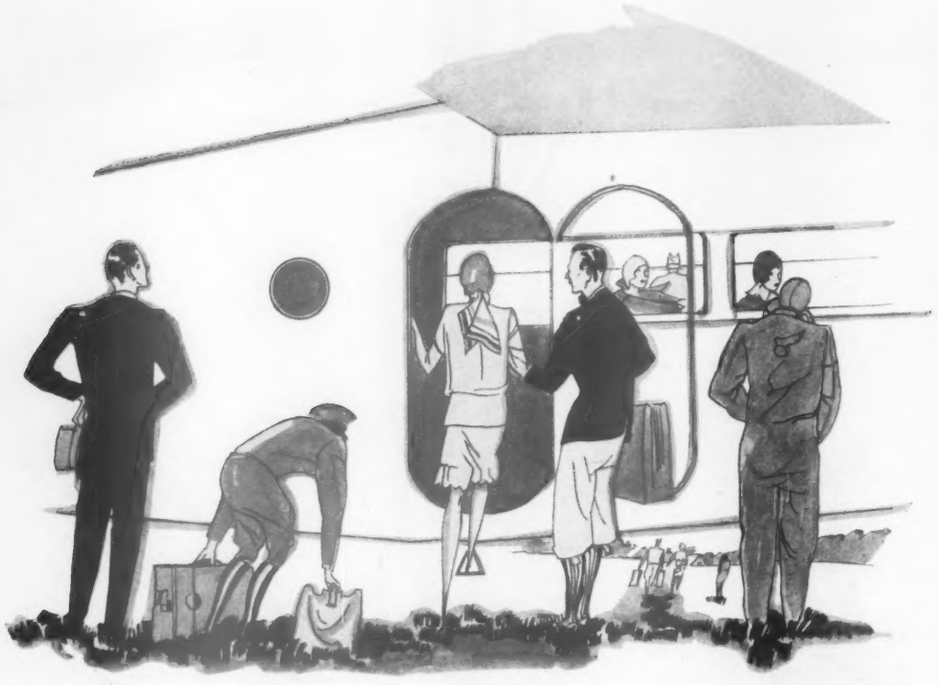

Entering a Ford Tri-Motor you know that everything that could be done to promote safe, dependable and comfortable air travel, has been done!

Entrusting your cementing to Halliburton, you know that everything that can be done to keep trouble out and oil in, is being done. In so important a matter, does it pay to be satisfied with anything less than the best?

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IMMEDIATE — POSITIVE

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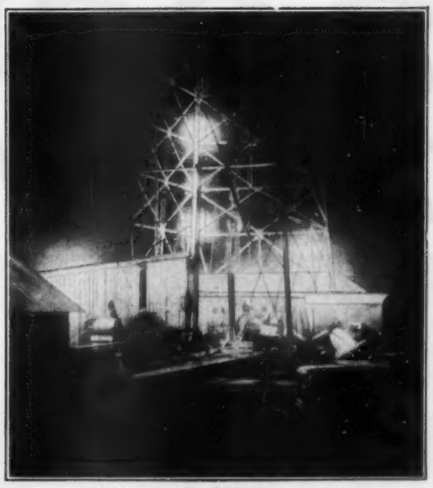

Rapp No. 1, Sedgewick County, Kansas. Halliburton System used. Cemented with Prestolith Velo Cement.

After five unsuccessful cementing attempts to stop bottom hole water at Waite No. 1, Oxford, Kansas, Prestolith Velo Cement was used — result, an immediate complete shut-off.

Rapp No. 1, Sedgewick County, Kansas, cemented at night by the Halliburton System using Prestolith Velo Cement.

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Why wait days for cement to harden? Use Prestolith Velo Cement which will give one-day strength of 2700 lbs., and two-day strength of 4200 lbs., when mixed with 5.6 gallons of water per sack... no admixtures or accelerators required... and can be safely drilled out in 24 hours.

Write, wire or phone us if your dealer does not stock Prestolith Velo Cement. Shipped in mixed cars with Red Ring Cement.

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ST. LOUIS KANSAS CITY MEMPHIS

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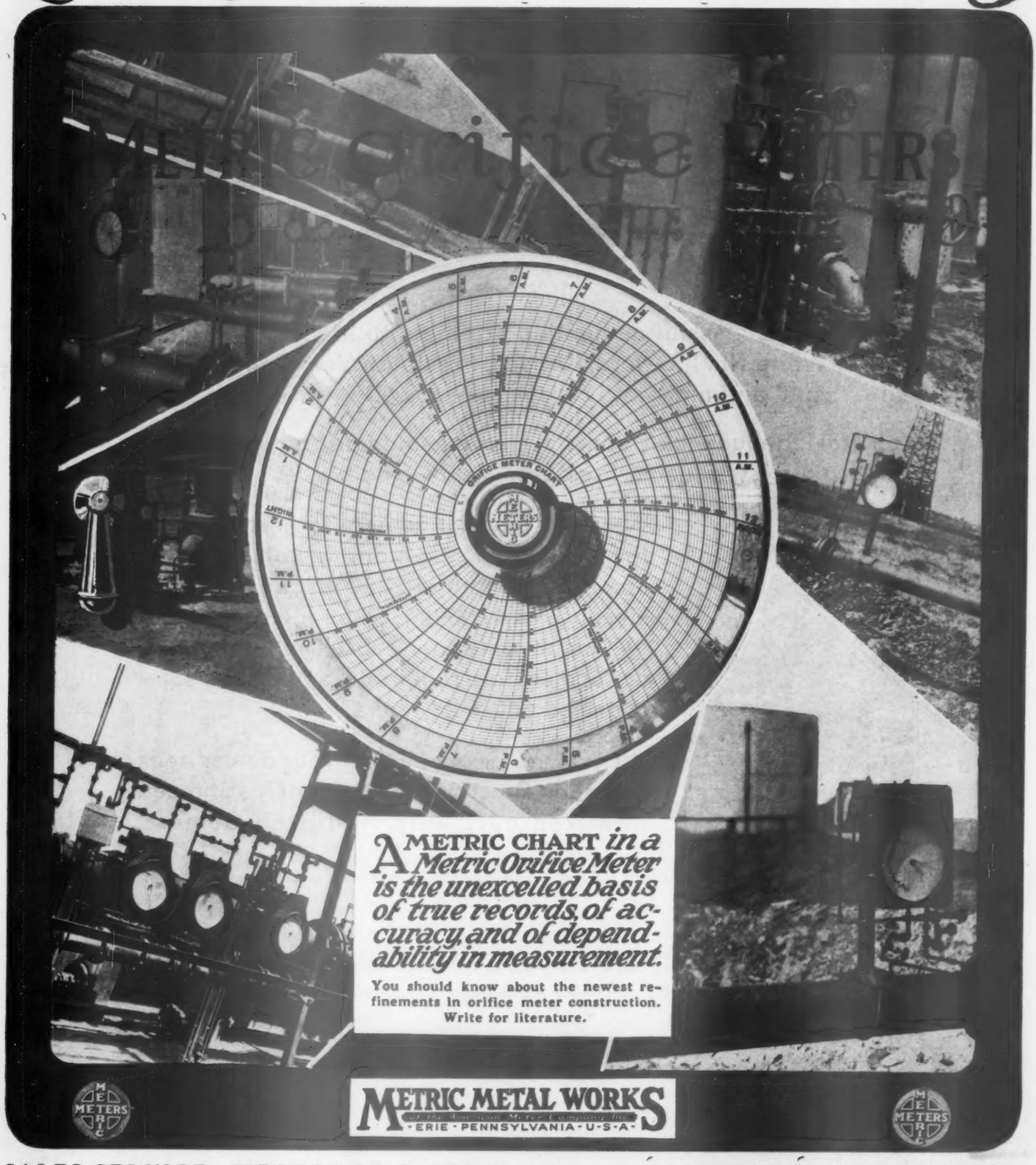
The Dial is set for accuracy in any field of measurement



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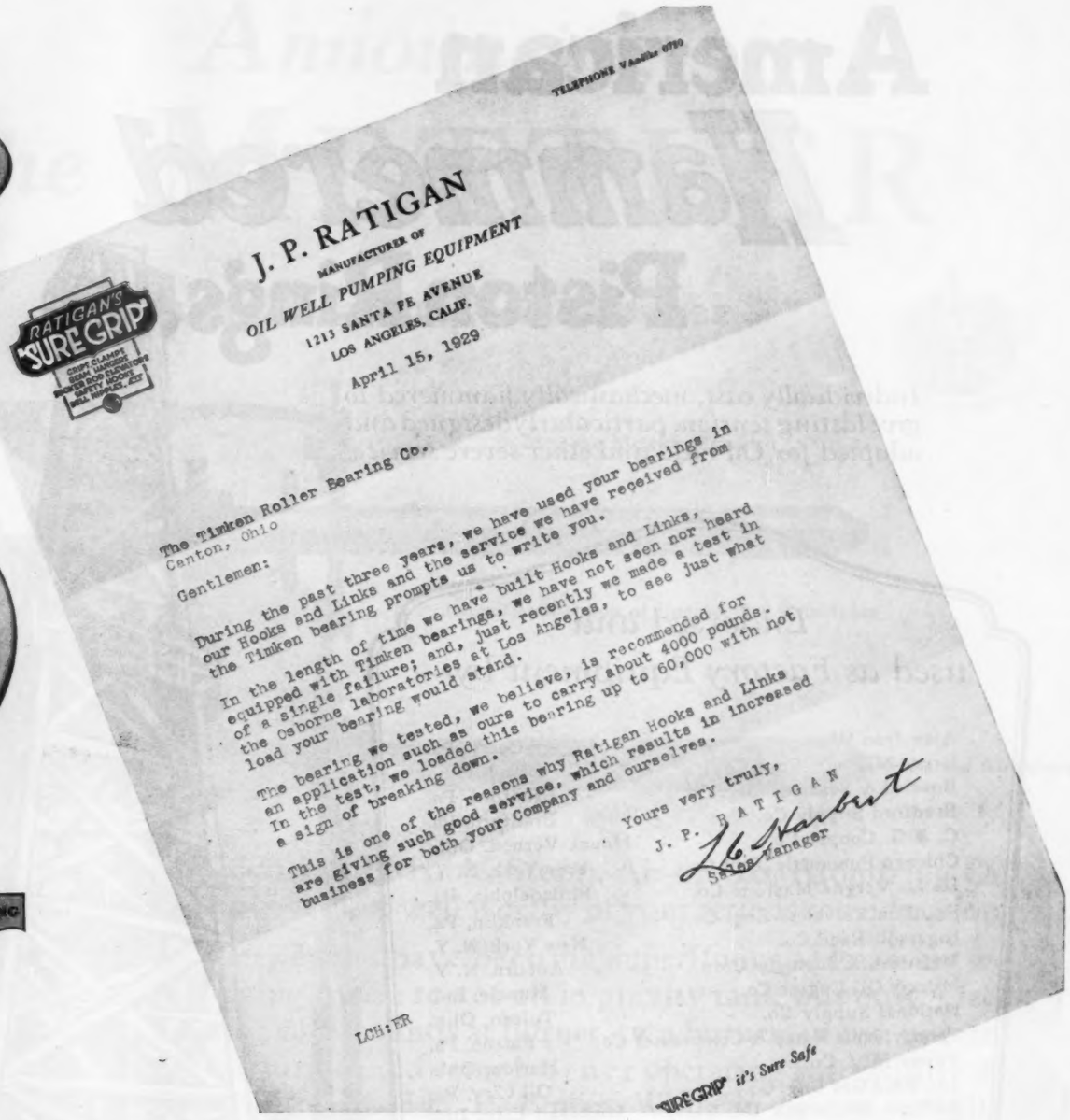

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MANUFACTURER OF
OIL WELL PUMPING EQUIPMENT
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April 15, 1929

The Timken Roller Bearing Co.
Canton, Ohio

Gentlemen:

During the past three years, we have used your bearings in our Hooks and Links and the service we have received from the Timken bearing prompts us to write you.

In the length of time we have built Hooks and Links, equipped with Timken bearings, we have not seen nor heard of a single failure; and, just recently we made a test in the Osborne laboratories at Los Angeles, to see just what load your bearing would stand.

The bearing we tested, we believe, is recommended for an application such as ours to carry about 4000 pounds. In the test, we loaded this bearing up to 60,000 with not a sign of breaking down.

This is one of the reasons why Ratigan Hooks and Links are giving such good service, which results in increased business for both your Company and ourselves.

Yours very truly,
J. P. RATIGAN
Sales Manager

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"SURE GRIP" it's Sure Safe

What Will A Timken Bearing Stand?

Read This Letter

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Manufacturers and users of Timken-equipped machinery find in Timken *the one bearing that does all things* well ... whether the loads are all *radial* ... all *thrust* ... *or a combination of both.* Friction is eliminated, wear retarded and machine life prolonged as the exclusive combination of Timken tapered construction, Timken *POSITIVELY ALIGNED ROLLS* and Timken steel proves its ability to reduce maintenance costs and increase operating efficiency ... permanently.

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TIMKEN *Tapered Roller* **BEARINGS**

American Hammered Piston Rings

Individually cast, mechanically hammered to give lasting tension, particularly designed and adapted for Oil Field and other severe service.

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May be obtained from the above companies, or their selling agents, in standard sizes or oversizes.

Rings for any engine or compressor not listed above can be obtained direct from us.

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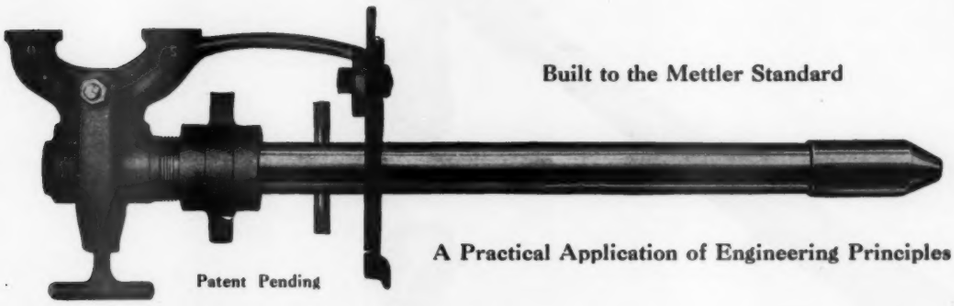
The METTLER

Quick Detachable Oil Burner



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A Practical Application of Engineering Principles

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External Atomizing

The Mettler Wide Range, Quick Detachable, Steam, Air or Gas, Atomizing Oil Burner is an outstanding achievement well worthy of your serious consideration.

Detailed descriptions of superiorities have become superfluous. However, we have seen this burner operating where top of oil in gravity tank was only 4 feet above burner, steam pressure of 4 pounds at burner, two burners in use, operating 450 H. P. Boiler at 200% rating, and same burner operating successfully 80 pounds on oil, 125 pounds steam on 15 H. P. Boiler. While in operation fully adjustable, integral within itself, regardless of gravity or pressure on oil or when using steam, high or low pressure air, or gas as an atomizing agent.

Designed and constructed on absolutely correct scientific and practical engineering principles, is made of the best materials and impeccable workmanship obtainable, (bronze and brass) without a single compromise or excuse whatsoever.

Built to a standardized quantity production that allows us to quote exceptionally low prices.

It is a significant fact that the Mettler Gas or Oil Firing equipment is rarely subjected to unfavorable criticism.

Mettler Quick Detachable Oil Burners are made and sold by the manufacturer of the celebrated METTLER ENTRAINED COMBUSTION GAS BURNERS.

We Welcome an Opportunity to Serve

*Trust One Who Has Had Experience.

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Please quote Prices on the equipment for the following:

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H. P...... **Make**.....
No. of Stills.....
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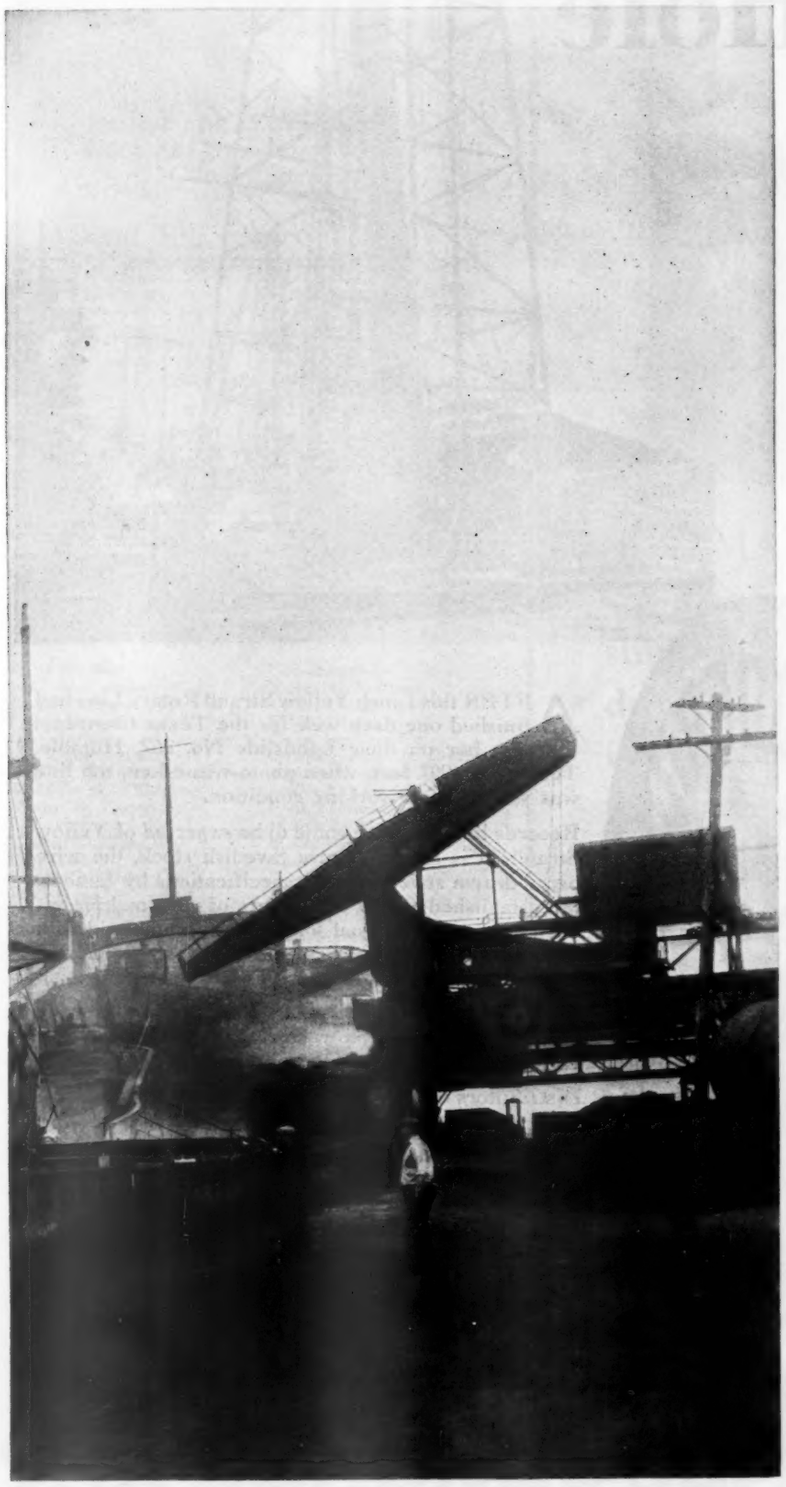

. . . came the vessel of Christen Smith that was exactly suited to transport A. O. Smith Vessels to any port in the world. This picture shows the loading of a shipment to Curacao.

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CRACKING STILLS

4907 Feet in Second Hole

.....and this Yellow Strand Line is Still Going Strong

N 595

AFTER this 1-inch Yellow Strand Rotary Line had finished one deep well for the Texas Company, they put her on their Landslide No. 262, Humble, Texas. At 4907 feet, when photo was taken, the line was still in good working condition.

Records like this have come to be *expected* of Yellow Strand. It is made of pure Swedish stock, the wire being drawn strictly to our specifications by famous, old established firms. In 53 years of rope making we have never met its equal for elasticity, combined with unusual wearing qualities and great strength. No wonder Yellow Strand survives hard usage.

Make no mistake. There *is* a difference between ordinary improved plow steel and Yellow Strand. Regardless of price, Yellow Strand Lines *cost less.*

Distributors of Yellow Strand and other B & B Drilling, Pumping and Sand Lines in all fields.

Ask for Catalog K-2

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Yellow Strand Rotary Drilling Lines

SINKING THE DEEP ONES

Partial List of Climax Users. Each has from one to twenty Climax Engines

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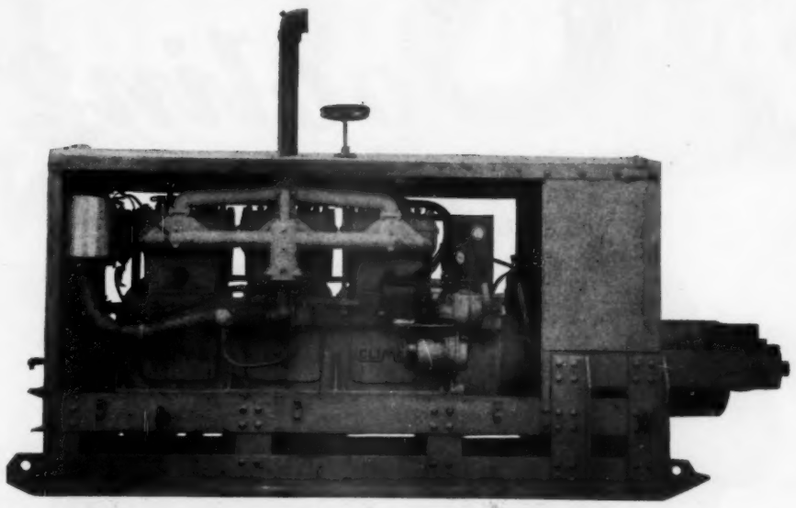

CLIMAX *Paymaster* 6 cylinder drilling engines are continuing their leadership on deep drilling. The *Paymaster* drops the tools quickly and picks them up smoothly—and this "just right" performance means better control in treacherous holes, less cable trouble—*fewer fishing jobs.* In addition, the *Paymaster* engine eliminates the use of permanent foundations—the time and expense to put them in. Set a "Paymaster" on a couple of timbers, throw on the belt, tighten up the turnbuckles, and she's ready to go to work.

CLIMAX Trade Mark Reg. U.S. Pat. Off.

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76 WEST 18TH AVENUE CLINTON, IOWA

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THE NATIONAL SUPPLY COMPANIES

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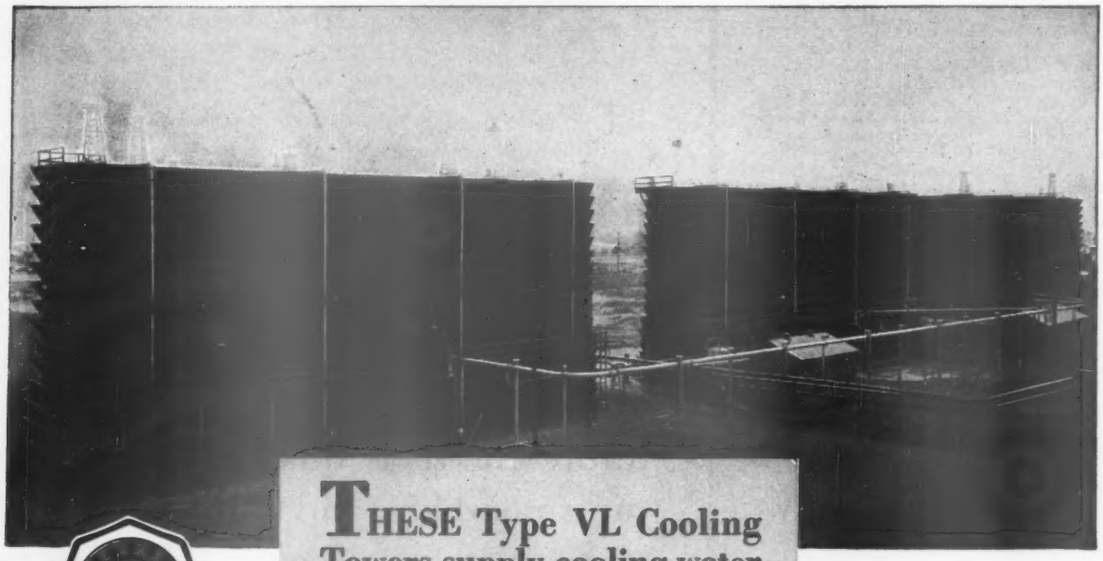
Cooling Water Without Nuisance



THESE Type VL Cooling Towers supply cooling water for an absorption plant producing in excess of 100,000 gal./24 hr. of casing head gasoline.

Superior cooling in periods of low wind and elimination of that objectionable plant nuisance, windblown water spray, are outstanding features.

C·F·BRAUN & CO.

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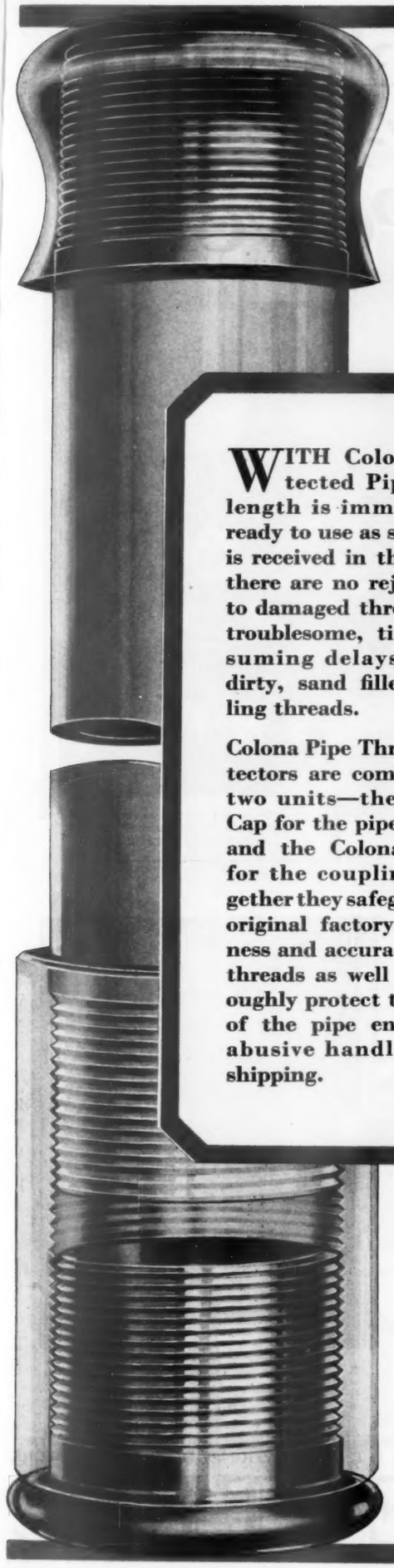


WITH Colona Protected Pipe every length is immediately ready to use as soon as it is received in the field—there are no rejects due to damaged threads—no troublesome, time consuming delays due to dirty, sand filled coupling threads.

Colona Pipe Thread Protectors are composed of two units—the Colona Cap for the pipe threads and the Colona Nipple for the couplings. Together they safeguard the original factory cleanliness and accuracy of the threads as well as thoroughly protect the edges of the pipe ends from abusive handling and shipping.

"COME ON BOYS! THE PIPE IS READY TO PUT DOWN"

A NEW shipment of pipe direct from the mill and not a single coupling or pipe end damaged despite the fact that the pipe has been shipped a thousand miles and subjected to every kind of mishandling and abuse.

It pays to specify Colona Protected Pipe—It saves time and expense. It's a modern idea.

COLONA DIVISION
PITTSBURGH SCREW & BOLT CORP.
Pittsburgh, Pa.

COLONA
PIPE THREAD PROTECTORS

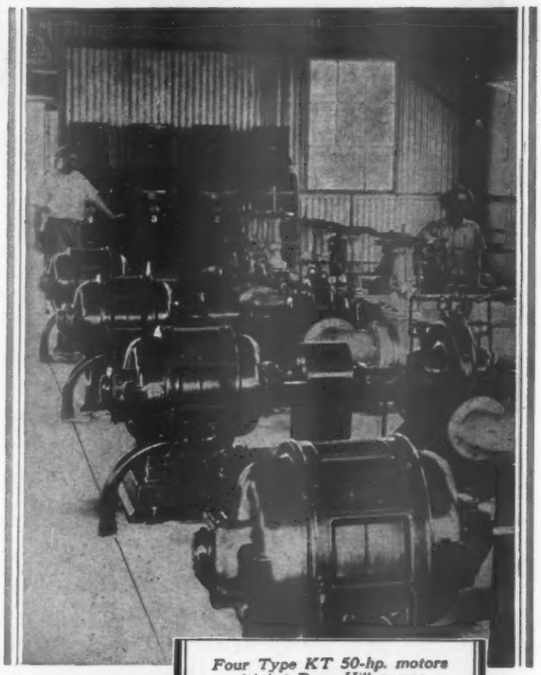
For every motor application *in refining-* G-E Motorized Power

PERHAPS you think your refinery is different—your motor applications are so extensive and complicated that there seems to be no satisfactory solution for the problem.

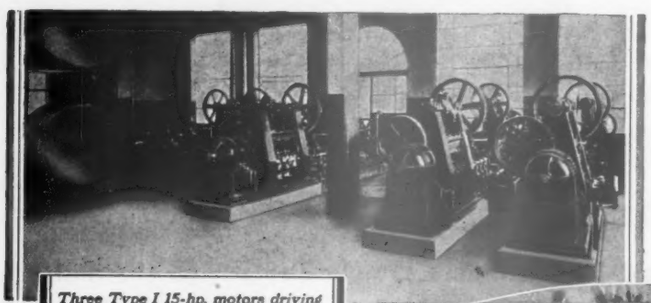
There *is* a solution. No matter what type of refinery you have—whatever process you use—whatever products you make—G-E Motorized Power is fitted to every need of your plant.

Pumps of every type, fans, blowers, compressors, centrifuges, process machinery, material-handling equipment, in fact, apparatus for every purpose—from charging the crude at the stills to loading the finished product at the loading racks—can be operated at full capacity by G-E motors and controllers.

The flexibility, reliability, safety, and economy of G-E Motorized Power are worth investigating. Consult your nearest G-E office.

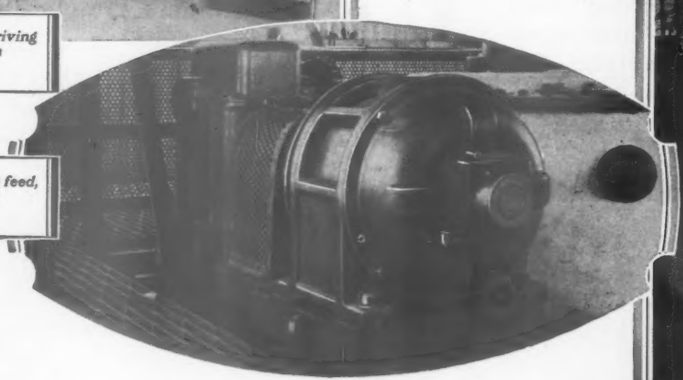


Four Type KT 50-hp. motors driving Dean Hill pumps in Oklahoma refinery



Three Type I 15-hp. motors driving Gould pumps in wax room of Texas refinery

G-E oil field specialists at: Dallas, Denver, Houston Kansas City, Oklahoma City, Tulsa, Los Angeles, San Francisco.



10-hp. Type KT motor driving feed, mixer, and treater on the Silica-Gel process

Refinery motor room showing G-E motors driving still pumps through protective fire wall

Motorized Power
–fitted to every need

200-275

JOIN US IN THE GENERAL ELECTRIC HOUR, BROADCAST EVERY SATURDAY AT 8 P. M., E. S. T. ON A NATION-WIDE N. B. C. NETWORK

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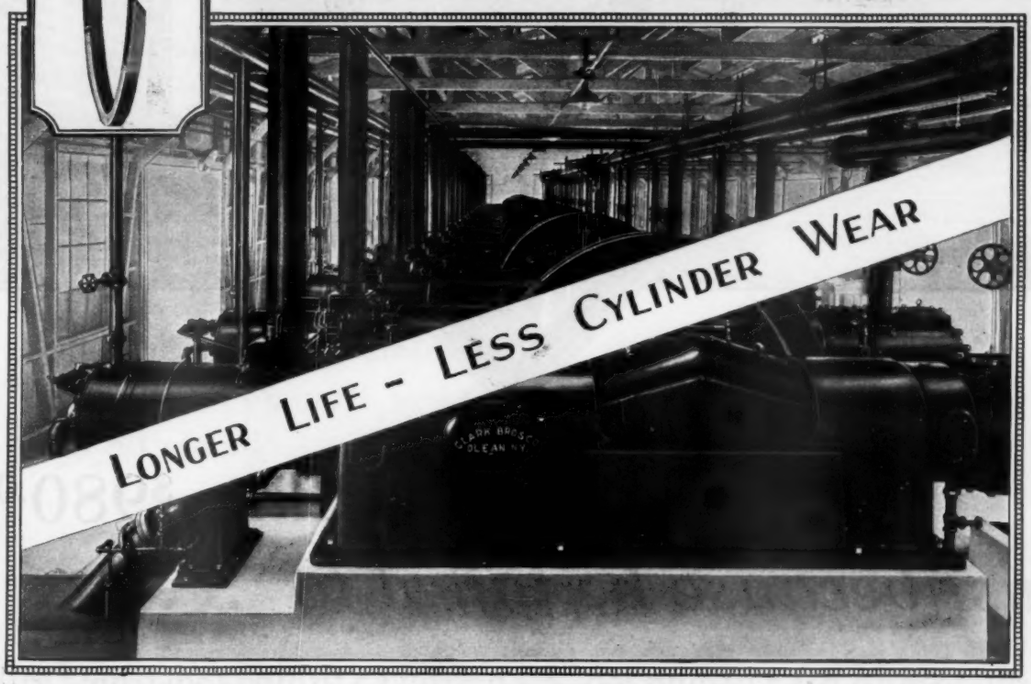
COOK'S GRAPHITIC IRON PISTON RINGS



Don't Wait!!

Don't wait until your cylinders have become scored and worn, but maintain the maximum efficiency of your Gas Engines, Diesel Engines and Gas Compressors by installing COOK'S GRAPHITIC IRON PISTON RINGS at the outset.

BUT, if your cylinders are worn, these special rings will arrest wear and prolong the life of the unit.

The preference shown for COOK'S GRAPHITIC IRON Piston Rings by many of the leading operators in every field is your assurance of their superiority. Their ever increasing use is the result of actual field tests. You, too, will find under the severest conditions of service COOK'S GRAPHITIC IRON Piston Rings have a longer life and eliminate cylinder wear.

Write today for special Bulletin giving the facts wherein these rings differ. There is only one GRAPHITIC IRON Ring—the original COOK'S.

To our ever increasing number of customers we suggest specifying by name when purchasing new equipment to guarantee obtaining the genuine.

The superiority of COOK'S GRAPHITIC IRON Piston Rings is guaranteed by a company with over 40 years experience in the manufacture of packing rings.

Furnished as factory equipment by many leading manufacturers and obtainable through their branch offices, or direct from our district agents.

Agents carry stock for standard engines.

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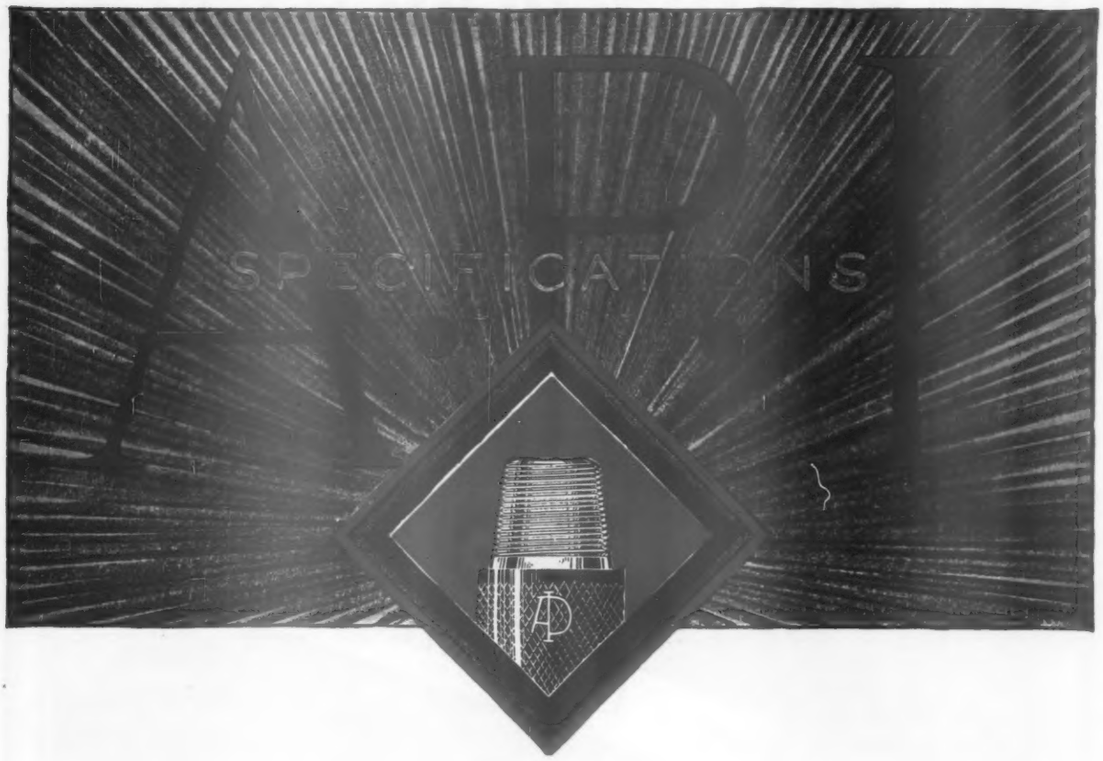


It cost him $980.00

just because he failed to . . . . .

Driller Smith has a fishing job. He borrows a fishing tool from Driller Jones on the next location. Driller Jones has A.P.I. joints but Driller Smith has not. The tool won't fit so he goes to the machine shop and has it recut, losing one half day. While he is shut down his pipe sticks in the hole. He loses ten days and the fishing job costs him $1,000.00. He failed to standardize. If he were using "Brewster" A.P.I. joints his loss would have been about $20. *Think it over.*

Warehouses: Oklahoma City Houston Fort Worth

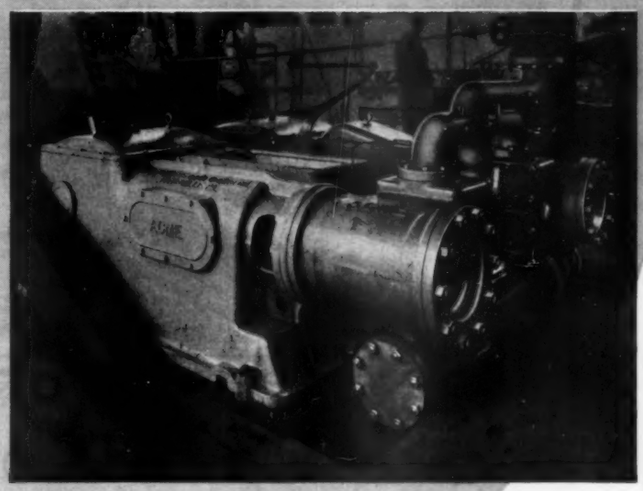
BREWSTER A. P. I. *Tool Joints* are in demand the world over.

The Brewster COMPANY~INC.
SUCCESSORS TO OIL CITY IRON WORKS INC.
Shreveport, Louisiana

"EVERYTHING ...an ENGINE ought to be"

IN these days you have a right to expect more from a drilling engine. But you cannot look for it in units of antiquated design. Your new engines should be as modern as your 1929 motor car. Wherefore you will want to know all about.

TITUSVILLE OIL COUNTRY MACHINERY BUILT WITH RESERVE RUGGEDNESS



THE NEW
Acme Twin-Cylinder Engine

with Timken bearing crankshaft and totally enclosed crankcase.

Specification details on request.

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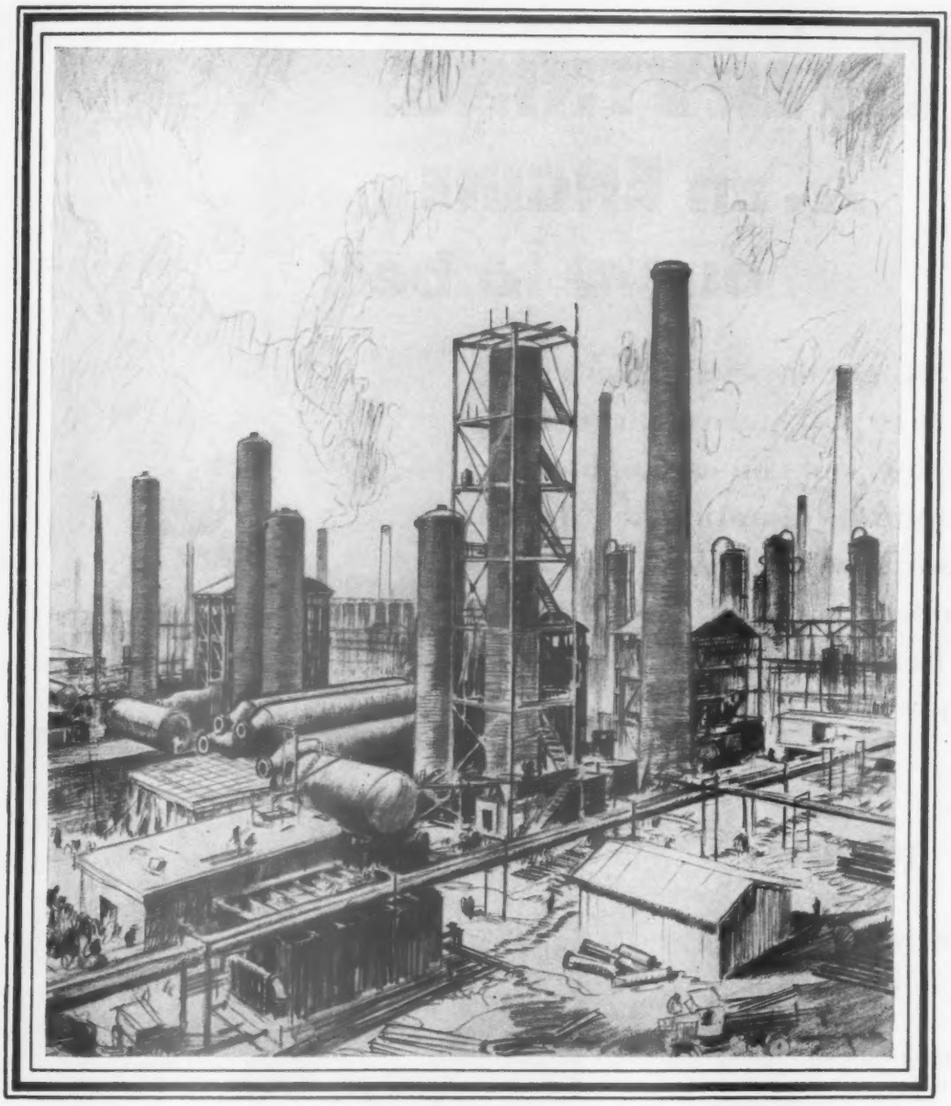

Expanding WITH MORE KELLOGG EQUIPMENT REFLECTS VALUE OF FIRST INSTALLATIONS

After years of satisfactory performance, refiners return to Kellogg for the additional equipment needed for greater production. This repeat business constitutes a considerable part of the Kellogg volume and reflects the tested worth of previous installations.

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SPECIFY GOODRICH ON YOUR NEXT TRUCK

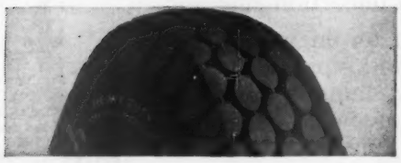
What a Brute OF A Tire FOR Punishment

Over fifty trucks of the Indian Territory Illuminating Oil Co. plow through rough going out in the oil fields and whiz down the city streets of Oklahoma City, Okla., on Goodrich Heavy Duty Silvertown Oil Field Special Tires.

* * *

(*See below*) Traction? Mileage? Just look at the size of that carcass and the tread! "Teeth" are set in that stubborn tread shoulder like those in the undershot jaw of a bull dog.

This SPECIAL GOODRICH TIRE *made for a* SPECIAL PURPOSE!



5 *special advantages for Oil Field Specials*

1. Unusually strong carcass of *reinforced* construction.
2. Rows of "teeth" like the undershot jaw of a bull dog give *added* traction from sides of ruts.
3. Top tread areas equal to assure traction and *even* wear on smooth roads.
4. *Twin* beads fit the tire snugly to rim and help resist "side-roll" wear.
5. The tire toughened *throughout* by the famous Goodrich "water cure."

The B. F. Goodrich Rubber Company, Established 1870, Akron, Ohio. Pacific Goodrich Rubber Company, Los Angeles, Calif. In Canada: Canadian Goodrich Company, Kitchener, Ontario.

OIL FIELDS represent the worst kind of road conditions. No one needs to tell you that!

Truck operators who would ordinarily get thousands of *extra* miles out of tires on city streets usually get *less* mileage than their company pays for when they venture the rigors of oil field choppy roads.

Now Goodrich has built a super truck tire to meet these special conditions.

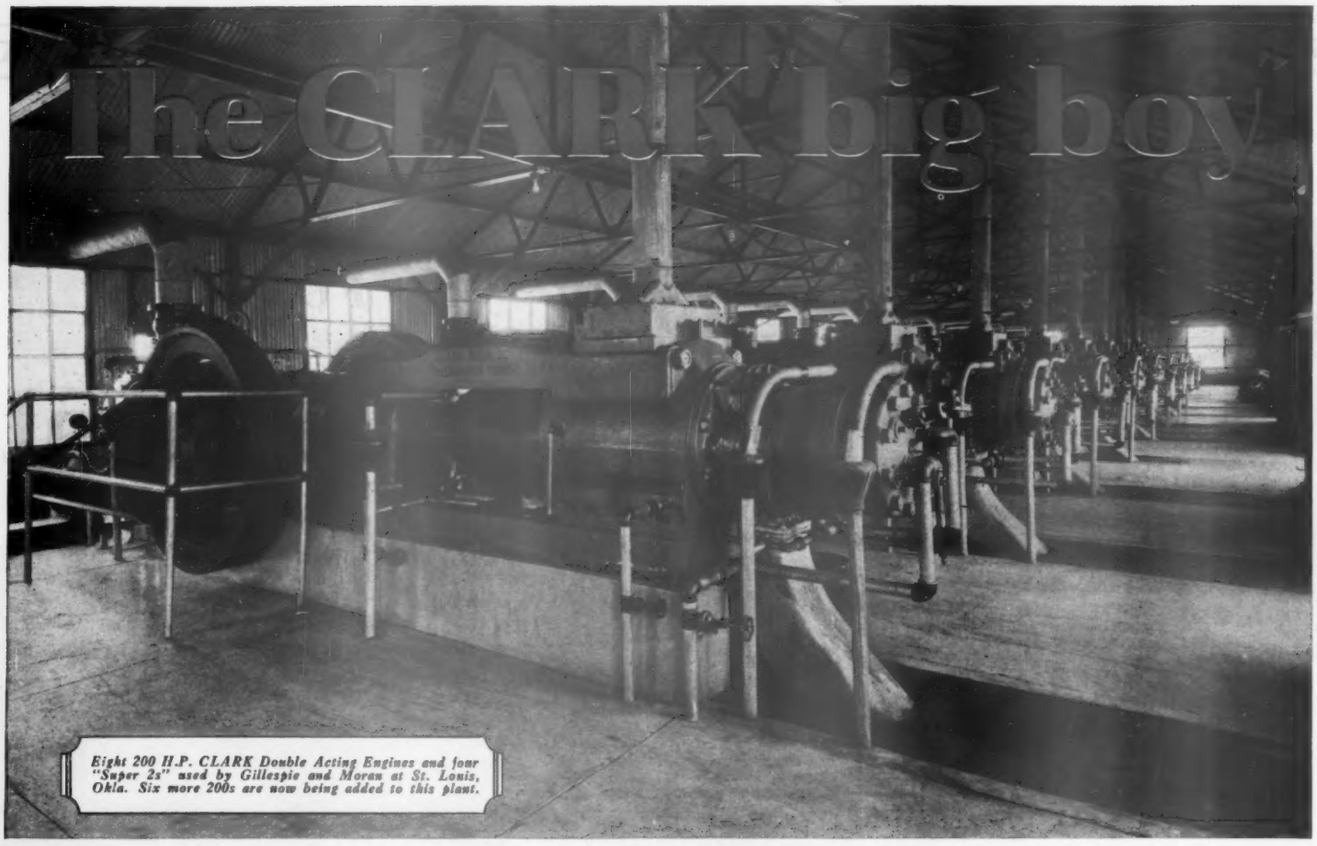
It is called the Goodrich Heavy Duty Silvertown Oil Field Special.

And what a tire it is! Oil field truck operators have dubbed it the "Bull Dog of the Great Open Spaces." It is a *brute* for punishment . . . It *fights* right back at the mud ruts, the sun-baked prairies, swamps and cactus! Traction? Mileage? It will out-pull and outlast *any* truck tire in the oil fields.

Truck operators are quickly learning the surpassing qualities of Goodrich Heavy Duty Oil Field Specials. Specify them on your next truck.

Goodrich

Oil Field Special HEAVY DUTY **Silvertowns**



Eight 200 H.P. CLARK Double Acting Engines and four "Super 2s" used by Gillespie and Moran at St. Louis, Okla. Six more 200s are now being added to this plant.

Winning *favor by lowering Compressor Expense*

The CLARK 200 H.P. and 400 H.P. Double Acting Engine wins the favor of all who come to know it by cutting down expense in no uncertain manner.

Drastically reduced costs per h.p. for engine, freight, hauling, buildings, foundations and piping—the outstanding fuel economy of the famous CLARK "Super 2" design—notable maintenance economies due to extremely rugged 2-cycle construction—these savings show plainly in black and white.

Every operator who is interested in the purchase or operation of heavy compressors should have all the facts about the CLARK Double Acting Engine.

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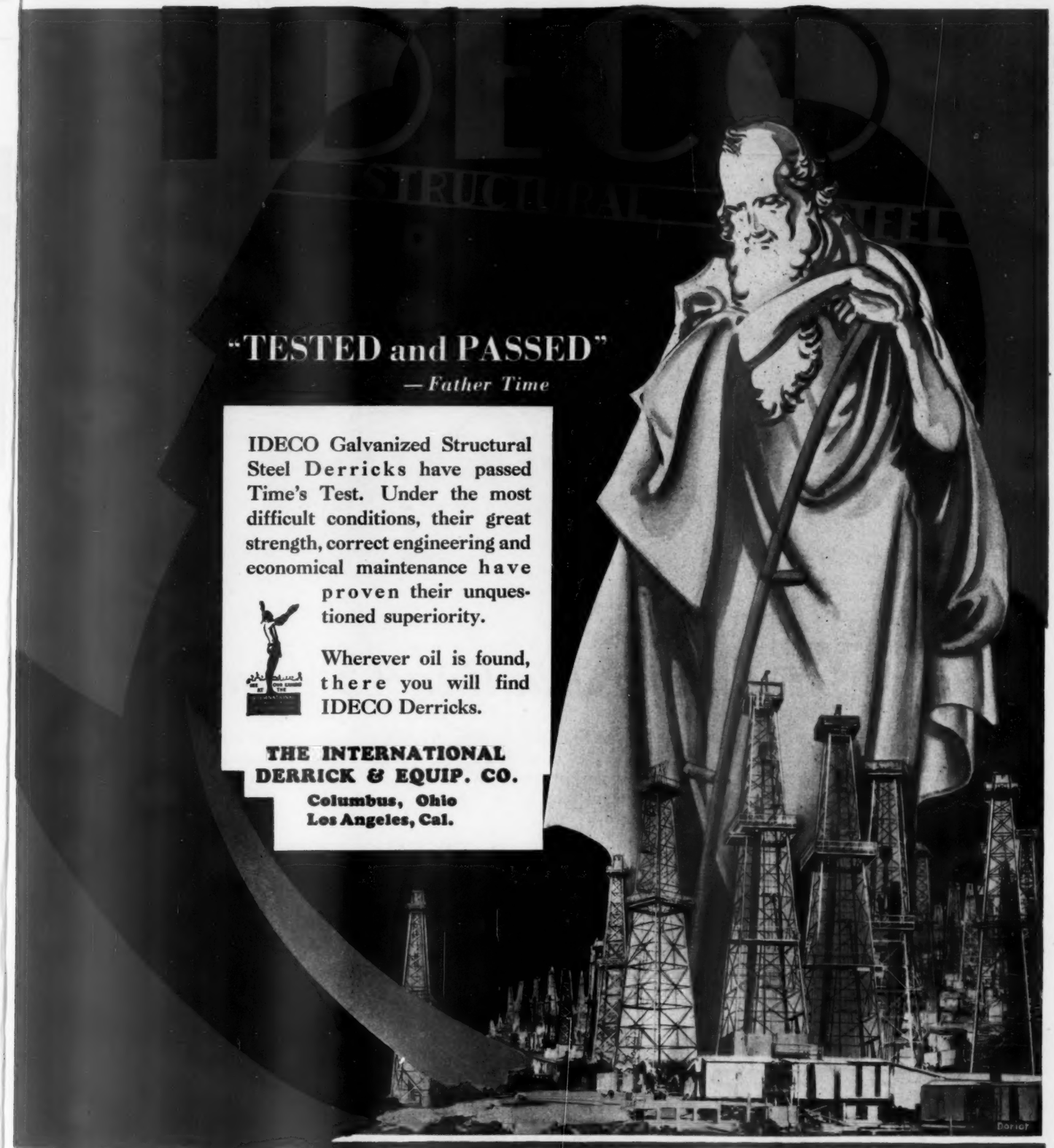
Compressors and Gas Engines

CLARK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—Father Time
IDECO Galvanized Structural Steel Derricks have passed Time's Test. Under the most difficult conditions, their great strength, correct engineering and economical maintenance have proven their unquestioned superiority.
Wherever oil is found, there you will find IDECO Derricks.
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sure of its FOOTING

this FWD *truck is hauling* 4350 *gallons*

They also have four wheel brakes. They are made in sizes from 2 to 10 tons for all year - all purpose work.

NOTHING is more creditable . . . more convincing than the cold facts of a regular performance. Consequently, in the above photo is shown an FWD Oil Field Special which has what might be called a record in hauling oil.

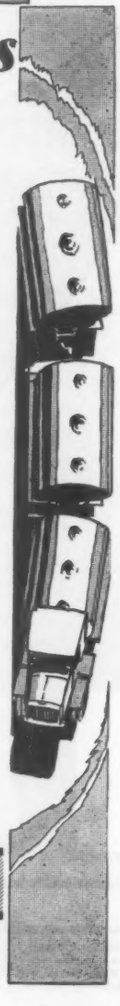
Think of it . . . this FWD Truck and two trailers hauled 4350 gallons of oil or 28,710 pounds, over a 77 mile run. Still further, of these 77 miles, *40% of the roads were only fair and 60% were bad and some places almost impassable.* Such is the service the FWD Truck is rendering the oil field.

FWD Trucks are always sure of their footing . . . this because they drive and brake on all four wheels. Naturally they have full power and pull on each wheel, which enables them to travel safely through the sand, clay, and slush of the oil fields.

Our oil field representatives will gladly give you specific figures on how FWD Trucks are now serving the oil field. They will tell you about their economy of operation . . . about the FWD country-wide sales and service facilities.

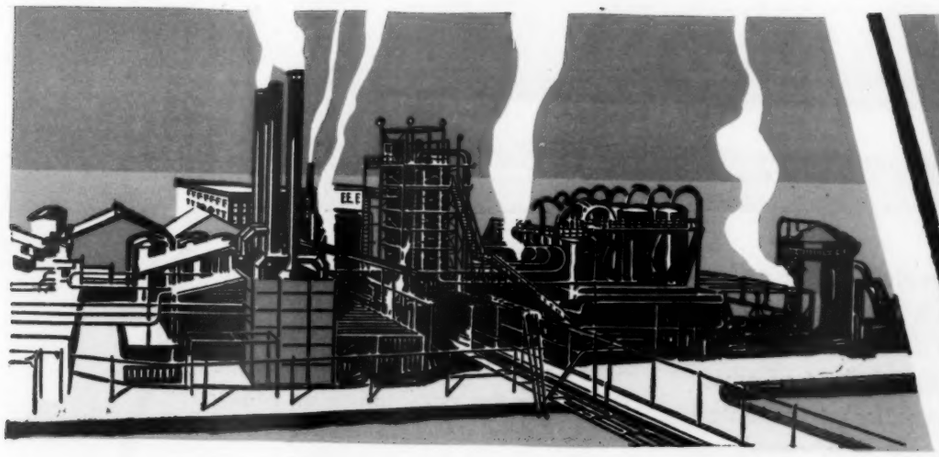
Send for special oil field bulletin today.

THE FOUR WHEEL DRIVE AUTO CO.
Clintonville, Wisconsin



FWD

BACKED BY NATION WIDE SERVICE



In cracking stills, ENDURO KA2 increases tube life over four times

THE ability of Enduro KA2 to eliminate frequent costly replacements, and contribute materially to operating profits, is evidenced by the unusual service this improved chrome-nickel-alloy is giving in prominent refineries.

In the soaking banks in three refineries—the life of the steel tubes formerly used, averaged from 2 to 3 months.

In the same stills, Seamless tubes of Enduro KA2 have already averaged from 10 to 12 months, and are still in service.

Similar economies are also being effected by the use of Enduro KA2 in other refinery installations where heat and corrosion take early toll of other ferrous materials.

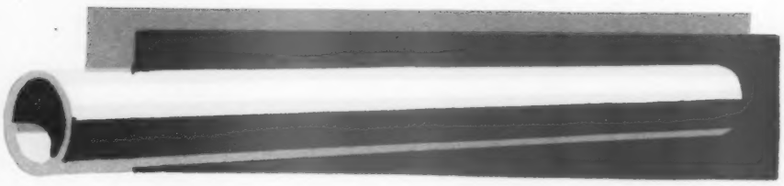
The life of heat exchangers, condensers and other apparatus is being increased many times, and costly shutdowns and replacements avoided, by the use of Enduro KA2.

ENDURO
NIROSTA
KA2 STEEL

CENTRAL ALLOY STEEL CORP.
Massillon and Canton, Ohio

LUDLUM STEEL CO.
Watervliet, N. Y.

THE BABCOCK & WILCOX TUBE CO.
85 Liberty St., New York, N. Y.



THIS outstanding ability of Enduro KA2 to successfully withstand the destructive agents which cause early failure of other materials is due entirely to patented methods of processing, developed by Dr. Benno Strauss at Krupp Works, Germany.

Among the outstanding characteristics of this unique chrome-nickel-alloy are the following:

Greater corrosion resistance than is obtained with any other alloy—

High resistance to Oxidation in continuous service at high temperatures—

Complete freedom from embrittlement throughout the entire range of operating temperatures—

Over four times the tensile strength of mild steel on continued heating at 1000° F.

Metallurgists of the companies listed below will be glad to discuss any corrosion or high temperature problems with you—and submit recommendations relative to the application of Enduro KA2. Complete data also available in booklet form. Write for a copy.

Enduro Nirosta KA2 Available in

Plates • Sheets • Bars • Strips • Forging Blanks • Shapes • Seamless Pipe and Tubing • Welding Rods • Castings • Wire

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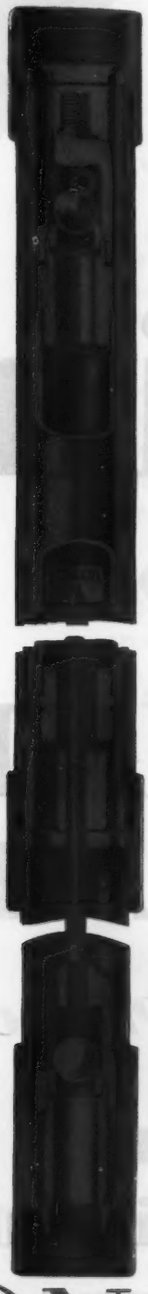
LUDLUM STEEL CO. Watervliet, N. Y.

THE BABCOCK & WILCOX TUBE CO. 85 Liberty St., New York, N. Y.

Thousands of pump combinations with *Axelson Pump* Parts



Accuracy and standardization have made Axelson Pump parts so thoroughly interchangeable that an infinite number of assemblies can be made with a few Axelson fittings. The exact assembly that will best meet the conditions of each individual well can be made up from stock parts—a feature of great importance in remote fields.

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AXELSON *Oil Well Pumps*

Hopkins

Anti-Friction

TOOL JOINTS AND COLLARS

Equipped with Bettis Protectors

Now Manufactured by the *foremost* Oil Tool Manufacturers

These Manufacturers on Production

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THE universal success of Hopkins Anti-friction Tool Joints and Collars has led to widespread demand. For the purpose of assuring prompt delivery to every field reliable manufacturers have been licensed by Patterson-Ballagh Corporation, under the Bettis and Hopkins patents, to produce these Tool Joints and Collars. Now you can have one of your preferred oil tool equipment manufacturers serve you.

Every Hopkins Anti-friction Tool Joint and Collar is equipped with a genuine Bettis Protector. The Joints and Collars are machined with a simple recess in which the Protector is set. The groove embodies 25 per cent more cross-sectional area than the drill pipe.

By this means of protection a resilient, seamless, hingeless cushion of toughest compounded rubber grips the Joint and Collar within a retaining groove right at the point where the greatest amount of contact occurs.

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With Their Requirements In All

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Everything in Iron, Steel and Non-Ferrous Metals that the Oil Producer and Refiner may require.

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We Solicit an Opportunity to Figure on your Requirements

Let STOODITE throw "Old Man Abrasion" out of work!

IT'S almost impossible to *imagine* the *grind*, the *wear*... the *destructive heat* to which a bit is subjected when under pressure, thousands of feet below! Unless it's surfaced with a practically *impervious* metal, its end comes *quickly!* That is why STOODITE is fast becoming the standard surfacing material wherever man seeks "black gold." And, the money-saving uses of Stoodite are not confined to drilling bits alone. Wherever metal wears, STOODITE will *resist* "Old Man Abrasion."

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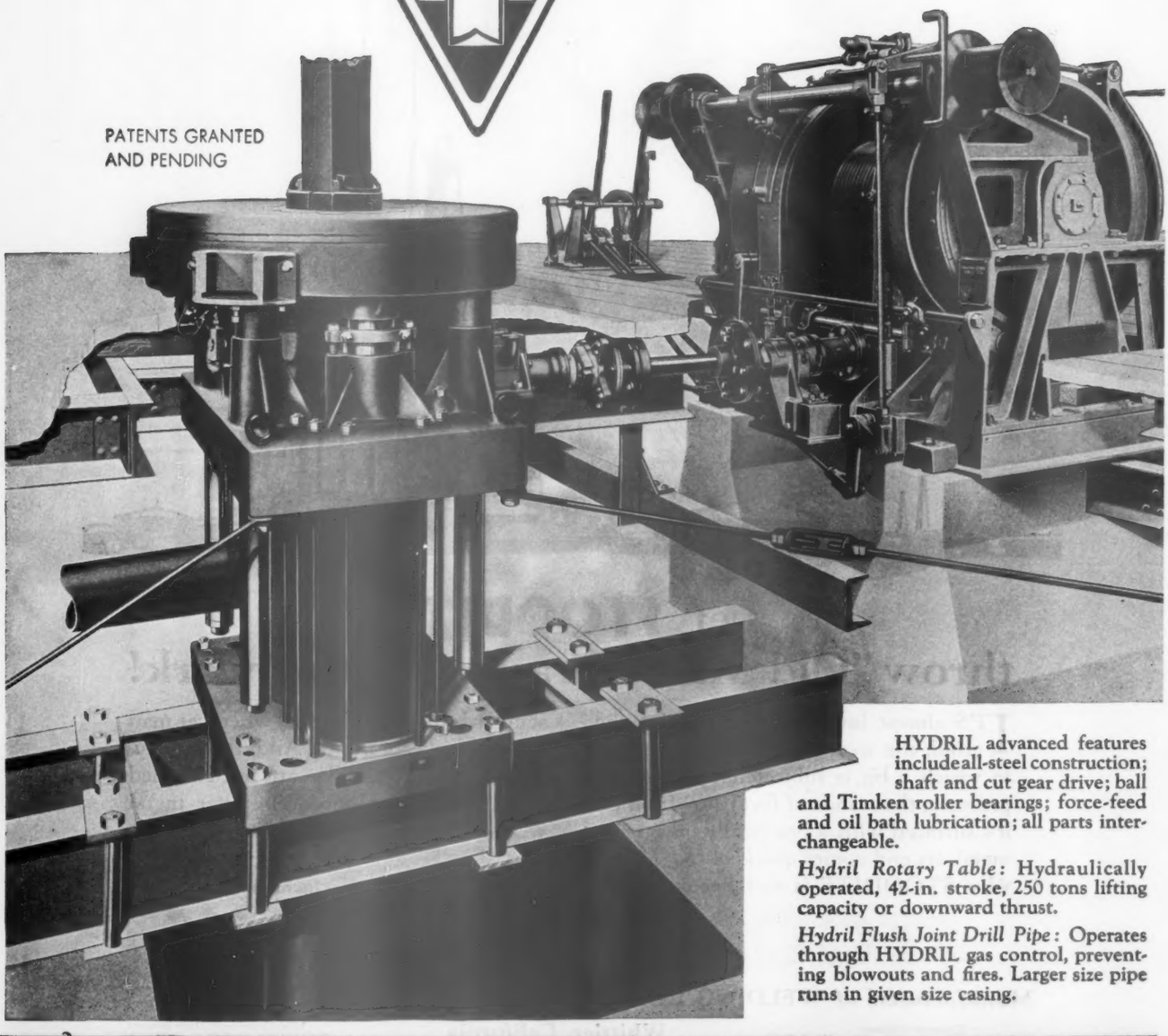

HYDRIL advanced features include all-steel construction; shaft and cut gear drive; ball and Timken roller bearings; force-feed and oil bath lubrication; all parts interchangeable.

Hydril Rotary Table: Hydraulically operated, 42-in. stroke, 250 tons lifting capacity or downward thrust.

Hydril Flush Joint Drill Pipe: Operates through HYDRIL gas control, preventing blowouts and fires. Larger size pipe runs in given size casing.

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gives skill *effectiveness!*

HYDRIL basic improvements in drilling equipment provide *certainty of results* never before possible!

Hydril Drawworks: Six hoisting speeds through selective 3-speed transmission and low-speed planetary drum drive. Self-contained on rigid cast steel base without derrick framing posts.

Hydril Steam Engine: Vertical double-acting piston valve type; 3 cylinders developing 320 H.P. Fully enclosed yet all parts are easy of access.

HYDRIL equipment operates equally well with steam, gasoline, or Diesel engine or electric motor drive.

TOOLS have always set the limits on the results skill could produce . . . and never more than in drilling oil wells a mile and more below ground . . .

HYDRIL advances oil well drilling beyond the old-fashioned rotary as the modern automobile advances transportation beyond the horse and buggy . . .

HYDRIL is designed out of a half-century of drilling experience . . . manufactured to standards of precision never before applied to oil well drilling equipment . . . developed by its builders during years of actual drilling before release to the industry!

HYDRIL brings new knowledge of exact bit pressure
—accurate control of feed at any desired rate, with *continuous, uniform* advance of the bit
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—control of the highest formation pressures *while drilling goes on as usual*
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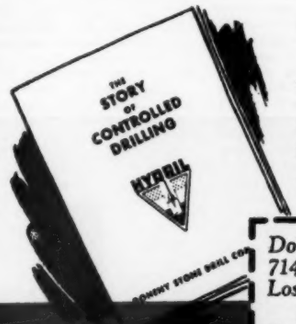
—new speed, safety, and simplicity in operation
—greater security against breakdowns.

HYDRIL is a better tool and a better process of drilling oil wells . . . *straighter* . . . *deeper* . . . *faster* . . . *safer* . . . *cheaper* than they have ever been drilled since the industry began!



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The Story of Controlled Drilling is a readable, profusely-illustrated booklet describing HYDRIL and its operation. Request your copy on coupon below.

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Please send me, with your compliments, "The Story of Controlled Drilling."

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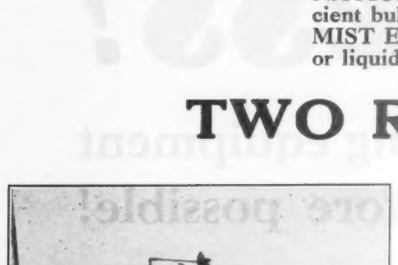
MIST EXTRACTION

In the separation of oil and gas or gasoline and gas, highly atomized particles of high gravity oil or gasoline remains entrained in the gas after the bulk of separation has been made. The removing of these liquid particles, in the separator is commonly referred to as "Mist Extraction."

NATIONAL SEPARATORS are specially constructed to furnish efficient bulk separation of large or small volumes AND a series of central MIST EXTRACTION chambers are provided for extracting the "MIST" or liquid content of the gas.

TWO REMARKABLE EXAMPLES



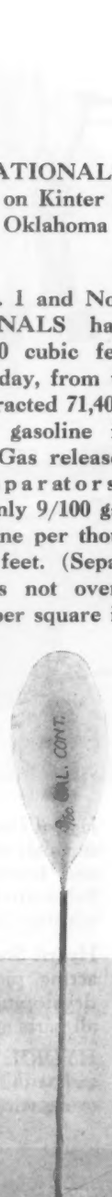
Three No. 4-A Nationals on the Watters No. 1 well in the Oklahoma City Field.

These three Nationals handled 96,000,000 cubic feet of gas per day, from which they extracted 105,000 gallons of gasoline in 24 hours. The released gas contained only 15/100 gallons of gasoline per thousand cubic feet.

(Separator pressures did not exceed 350 pounds per square inch.)

The NATIONALS below are on Kinter No. 1 in the Oklahoma City Field.

The No. 1 and No. 1-A NATIONALS handled 72,000,000 cubic feet of gas per day, from which they extracted 71,400 gallons of gasoline in 24 hours. Gas released by these separators contained only 9/100 gallons of gasoline per thousand cubic feet. (Separator pressures not over 125 pounds per square inch.)



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Refinery Section Starts on Page 133

Production Increases 26,515 Barrels

Highest daily average estimated total production in 1928, week ended Dec. 29, 2,585,844 bbls. Lowest in 1928, May 19, 2,338,241 bbls.

Santa Fe Springs, California, and Gray County, Texas, Responsible for Further Upward Trend

By James McIntyre

Highest daily average estimated light oil production in 1928, week ended Dec. 29, 2,158,134 bbls. Lowest in 1928, Mar. 3, 1,927,713 bbls.

There was no let up in the upward trend of production last week. California developed an increase of 19,000 barrels per day over the record of the week before and the Texas Panhandle increased 11,125 barrels. The Rocky Mountain, Eastern, and North Central Texas Fields all showed substantial increases. The total increase was 26,515 barrels.

In California the Santa Fe Springs Field increased its production 15,000 barrels per day, and there appears to be no sign of it making less until the California gas conservation law goes into effect next month.

Gray County, in the Texas Panhandle, hit a new peak of production in excess of 88,000 barrels as a result of new wells and deeper drilling of wells already in. Oil produced in Gray County is of high quality and may be the means of affecting the market price of Mid-Continent "sweet" crude if the big production continues. There was little change in the output of Oklahoma or Kansas in the past week, and there was less talk of possible changes in the market than in other recent weeks. About 30,000 barrels of Kansas and Oklahoma oil is being run to storage, which is not very favorable during the month of peak consumption, but there appears to be a tendency on the part of smaller refiners who recently threw back oil onto pipe line companies to resume crude purchases which has had something to do with the slight stiffening of the crude market.

The feeling is that the large purchasers desire to await the results of the gas conservation law in California. If it is as effective as its backers have claimed it may ease up a critical situation.

The fact that West Texas production dropped off last week is a sign favorable to a stable market as there is a keen demand for oil in that territory.

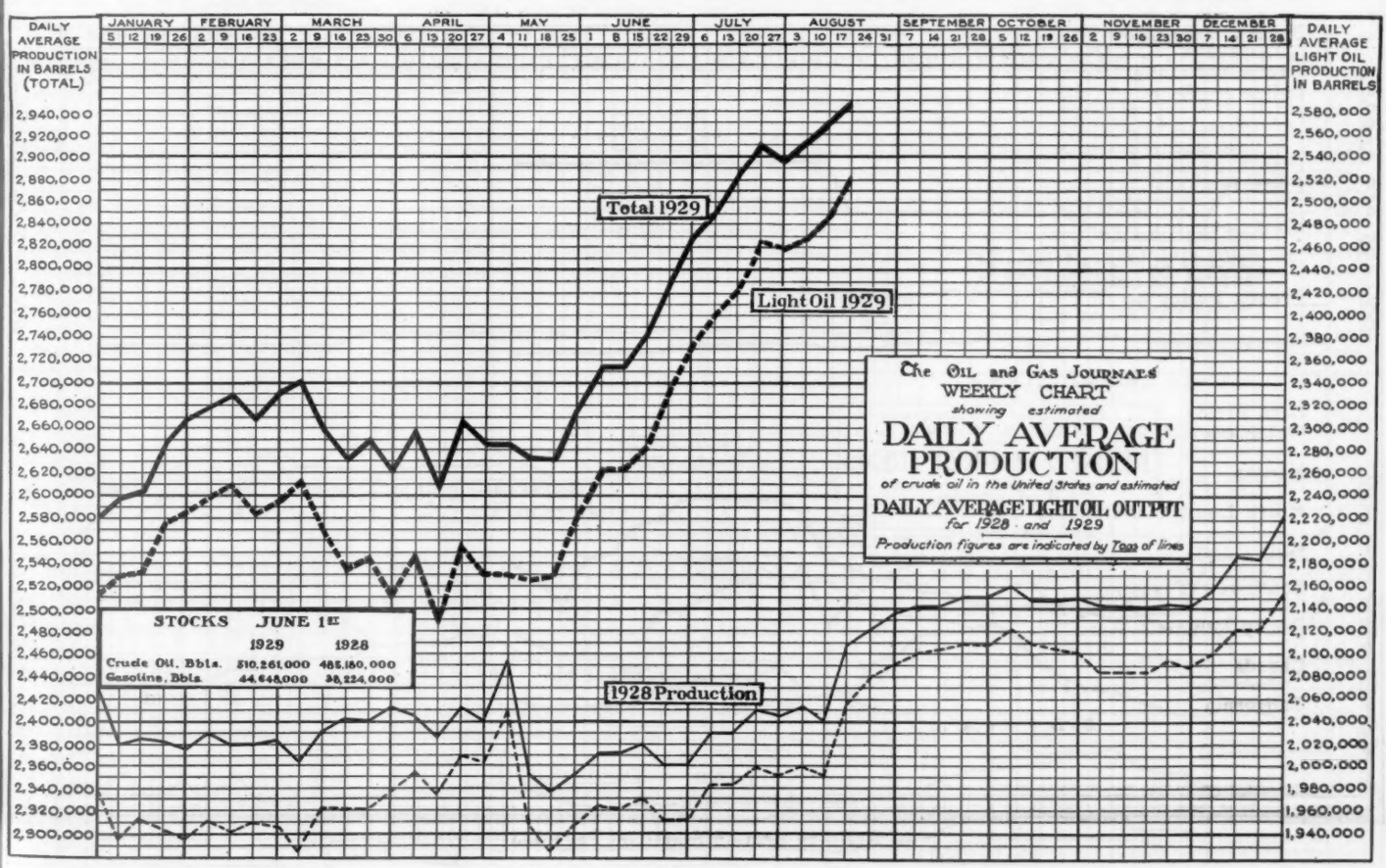
Pennsylvania Grade oil was given another 25-cent price cut in the past week, but that is looked upon as a purely local situation. Production is increasing and there has been some let up in crude runs to stills of that particular grade of crude oil.

PRODUCTION IN THE UNITED STATES

Estimated daily average production of light and heavy gravity oil in the United States for week ended August 17 and a comparison with the previous week follows:

	Aug. 17		Aug. 10	
	Light	Heavy	Light	Heavy
Oklahoma—				
Oklahoma City	34,675	.....	32,910	.....
St. Louis-Pearson	72,410	.....	71,525	.....
Seminole	300,095	.....	298,975	.....
Northern Miscellaneous	259,940	.....	264,260	.....
Southern Fields	55,950	.....	56,000	.....
Total Oklahoma	723,070	.....	723,670	.....
West Texas—				
Hendricks	135,177	.....	140,585	.....
Yates	138,393	.....	140,035	.....
Remainder	117,208	.....	116,860	.....
Total West Texas	390,778	.....	397,480	.....
North Louisiana	30,329	6,310	29,605	6,400
Arkansas	20,045	46,305	20,980	46,335
North Central Texas	154,749	.....	152,776	.....
Texas Panhandle	124,768	.....	113,643	.....
East Central Texas	19,149	.....	18,047	.....
Kansas	126,950	.....	126,985	.....
Total Mid-Continent Fields	1,588,838	52,615	1,583,186	52,735
Gulf Coast	.....	158,142	.....	159,946
Southwest Texas	.....	75,296	.....	76,503
Eastern	126,000	.....	125,000	.....
Rocky Mountain Fields	77,905	.....	74,911	.....
California—				
Santa Fe Springs	290,000	.....	275,000	.....
Long Beach	169,000	.....	170,000	.....
Huntington Beach	43,500	.....	41,500	.....
Elwood	23,000	.....	25,000	.....
Ventura Avenue	58,000	.....	56,500	.....
Seal Beach	46,500	.....	47,000	.....
Remainder of State	97,500	153,000	91,500	155,000
Total California	727,500	153,000	706,500	155,000
Total United States	2,521,243	439,053	2,489,597	444,184
Grand Total		2,960,296		2,933,781

Total Increase, 26,515 Bbls.; Light Oil Increase, 31,646 Bbls.


DAILY AVERAGE PRODUCTION IN BARRELS (TOTAL)
DAILY AVERAGE LIGHT OIL PRODUCTION IN BARRELS
JANUARY FEBRUARY MARCH APRIL MAY JUNE JULY AUGUST SEPTEMBER OCTOBER NOVEMBER DECEMBER
Total 1929
Light Oil 1929
1928 Production
The Oil and Gas Journal's WEEKLY CHART showing estimated DAILY AVERAGE PRODUCTION of crude oil in the United States and estimated DAILY AVERAGE LIGHT OIL OUTPUT for 1928 and 1929
Production figures are indicated by Tops of lines
STOCKS JUNE 1ST
1929 1928
Crude Oil, Bbls. 510,261,000 485,180,000
Gasoline, Bbls. 44,648,000 38,224,000

Firmness in Oklahoma Gasoline Market

Natural Gasoline Advanced. New Cracking Installations of Cracking Units Point to Higher Fuel Prices

By C. O. Willson

Steady prices in the domestic grades of refinery gasoline ruled in the Oklahoma (Group 3) market over the past week. Natural gasolines advanced and kerosene quotations were also increased fractionally by several refiners.

High gravity fuel oils, distillate and gas oil continue scarce in Oklahoma with prospects of further price increases in the near future. Among the lubricating oils bright stocks and most grades of neutral oils are strong although steam refined cylinder stock prices have been reduced.

The advance of one-half cent in U. S. Motor gasoline to 7¾ cents which became effective last week was being generally maintained by the larger refiners the first of the week. The situation of the refiners in regard to supply and demand, however, is not uniform. The August demand for gasoline through company owned stations and jobber contracts have been so large in the case of several refiners that they are having no difficulty in maintaining the 7¾-cent price for spot business. The stocks of these companies are low.

There are other refiners—both large and small—who frankly state that they would like to have more spot business. In a few cases these refiners have large inventories for this season of the year. They are faced with the problem of not only moving their current output but also reducing these inventories within the next four to six weeks. It is agreed among market observers that the fate of the gasoline market over the remainder of the month and September is largely dependent on the attitude taken by this group of refiners. If they decide to reduce their inventories it is feared that present prices will be reduced. If the refiners decide that an overproduction of crude oil is to bring lower crude oil prices in the Mid-Continent through the fall months those with large inventories of gasoline will no doubt decide to liquidate and will make whatever price concessions are necessary.

REFINED MARKET BAROMETER

A slightly improved gasoline market situation was reported from practically all refining centers during the past week. No price reductions of importance developed. In several areas the domestic consumption is so heavy that refiners are having difficulty in maintaining adequate supplies at bulk stations. With refiners drawing on storage there has been an increase in the demand for natural gasolines and prices in the Mid-Continent were advanced. Developments in the kerosene and fuel oil markets including distillates and gas oils are not the same in the interior and coastal areas. In the interior—particularly the Mid-Continent and Middle West—these products are generally strong but in other areas dominated by the coastal refiners the market is unsettled and weak. Cylinder stocks which have been reactionary in the East Coast market strengthened last week. Some grades of steam refined stocks were lowered in price both in Pennsylvania and the Mid-Continent. The demand for wax continues light with no change in price.

Mid-Continent—Domestic grades of refinery gasoline generally firm in price. High gravity demand confined to export movement on contracts with very little domestic demand. Natural gasoline prices advance as demand increases. Kerosene prices firm. Distillates, gas oils and better grades of fuel oils in strong demand with little natural offered. Steam refined stocks lower. Bright stocks strong.

East Coast—All grades of cylinder stocks recover from reactionary trend of previous weeks. Tank car gasoline market unsettled and wide range in quoted prices. Refiners having difficulty maintaining kerosene prices. Mixed trend in paraffin wax prices. Better movement of snow white petrolatum. No change in fuel oil, gas oil and Diesel oil prices.

Chicago—Movement of gasoline on spot market light but contract movement heavy and prices are being maintained. Good movement of kerosene at slightly higher prices. Offerings of industrial fuel oils have dropped off. Distillates and gas oils in demand at higher prices.

Pennsylvania—Fuel oil sluggish and prices lower. Some of refinery gasoline grades lower. Scattered reductions in several grades of neutral oils and steam refined cylinder stocks. Wax prices unchanged.

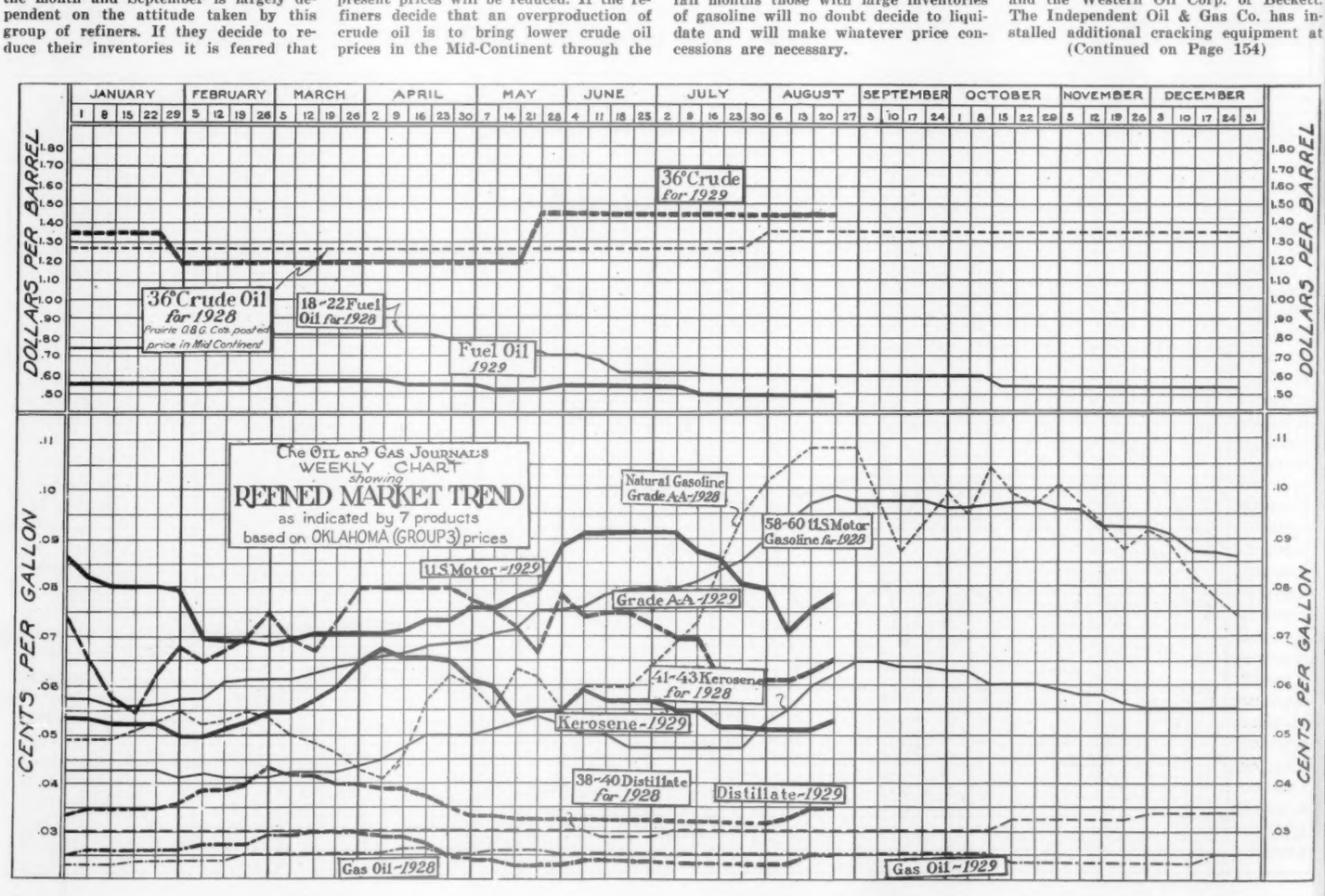
Gulf Coast—Fuel oil market weak. Price concessions in gas oils also reported. No change in gasoline prices for domestic export movement. Slow movement of neutral oils and several grades being sold with wide range in prices.

Several market observers including buyers as well as sellers believe that recent developments in refinery operations point to higher prices on fuel oils including distillates and gas oils. In fact as one sales manager stated, "if the attention had been given these products by refiners that has been given to the gasoline situation, prices would have been advanced several weeks ago."

Buyers continue to report that very little fuel oil, distillate and gas oil are available from refiners. This applies not only to Oklahoma but Kansas, North Texas, North Louisiana, Arkansas and refining centers in the Middle West. There is still considerable material available from West Texas refiners although the situation in that area is tighter than it was a few weeks ago. Refiners there are faced with the necessity of securing higher prices for their distillates, gas oils and fuel oil residuum to maintain their operations on a profitable basis.

So far as Oklahoma and other areas operating on high gravity crude oils are concerned the sources of supply for all products of lower gravity than the kerosene cut are constantly decreasing in number. This is due to the increasing number of cracking installations. Refiners who have had straightrun gas oil and fuel oil to offer are installing units. The new Oklahoma installations which are now either operating or will be within two weeks are those of the Anderson Prichard Oil Corp., Cyril; Illinois Oil Co., Cushing; White Oak Refining Co. and the Western Oil Corp. of Beckett. The Independent Oil & Gas Co. has installed additional cracking equipment at

(Continued on Page 154)



Practical Use of Pressure Control

Report of Operations in the Seminole Area Covering Practical Application of This System

By L. G. E. Bignell
Petroleum Engineering Editor

In presenting the data contained in this article it is not intended that it should be inferred that the practice is new or the methods different in any great way from what has been attempted by other companies and engineers, but it is felt that the results obtained are worthy of study and comparison.

It is recognized by engineers that a great deal can be learned about the application of pressure control, sometimes referred to as "back pressure," to wells for the conservation of gas energy that will, without dobut, aid materially in securing a greater proportion of the oil from the sands than can be expected if the wells are produced without attempting to regulate the gas-oil ratios.

A good deal has already been written about theories and results of pressure control, but it seems that there are still a number of things to be learned about its application and it is therefore gratifying to find that one of the leaders of the industry has granted the request of his engineers for permission to put their theories to practical test and that the results are encouraging.

The Barnsdall Oil Co., headed by E. B. Reeser, who is also president of the American Petroleum Institute, has taken a leading part in applying pressure control to wells in the Earlsboro and Seminole areas and a number of other companies are also experimenting with this system and it is thought before long considerable data will be available for comparison.

Reports Cited

The engineers for the United States Bureau of Mines, T. E. Swigart and C. R. Bopp, covered the subject to some extent in their Technical Paper No. 322, "Experiments in the Use of Back Pressure on Oil Wells."

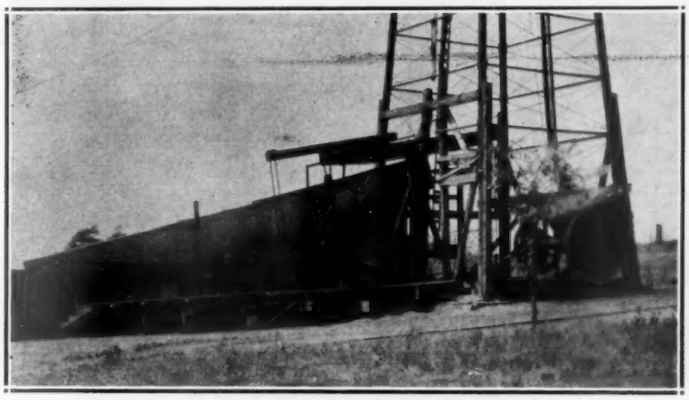
More recently E. H. Griswold and W. J. Wilkins, of the Marland Production Co., of Ponca City, Okla., prepared a rather exhaustive paper on the subject of "Pressure Control of Oil Wells," which was published in the American Institute of Mining Engineers Petroleum Development and Technology for 1928-29, in which they say in part:

"One of the strongest objections voiced against pressure control is that of the danger or inadvisability of deferring oil production by cutting the rate of production."

This, together with the statement made in the Bureau of Mines Technical Paper 322, to the effect that the use of pressures of more than 5 or 10 pounds on the line wells was not recommended, for if a higher pressure than 10 pounds was placed on the well it was thought that the oil would migrate to neighboring wells that may be producing at atmospheric pressure, seems to indicate the general attitude of the production companies toward this method.

It is admitted that care must be exercised in selecting wells and areas in which this pressure control system is to be applied for some types of sand reservoirs and relative oil and water tables will make this system difficult of operation, and there are other conditions that must be given careful consideration, so the engineer still has a number of things to decide upon before making his recommendations.

The Barnsdall Oil Co., through its southern district superintendent, Charles Jacobson, decided to make a test of the theory in one of its wells in Section 24-9-6, that was producing from the Hunton formation and flowing natural and after 20 months' operation this well is still producing about 70 bbls. per day while offset wells that were permitted to flow open at all times have been abandoned and plugged.



No. 2 Peters well, Barnsdall Oil Co., Earlsboro Field.

Method of Finishing Well

The method of finishing this well was not unique except perhaps in some of its mechanical details for tubing a flowing well is an old practice, but it is a notable fact that the executives of the Barnsdall Oil Co., Messrs. Reeser and MacArthur did approve Mr. Jacobson's recommendations in the face of the fact that all offset wells were apparently draining the sand by being operated at full rock pressure.

The well was finished with 8¼-inch casing and an oil saver used to run the 3-inch tubing into the well. To prevent oil and gas from discharging through the tubing while it was being lowered into the hole a thin cast iron plate was placed between the ends of two adjacent joints of tubing in such a manner that it was possible to hold it in place by screwing the pipe into the coupling.

This cast iron plate acted as a plug or seal and prevented oil or gas from escaping through the tubing, and as the tubing oil saver was used at the casinghead very little fluid was wasted during the tubing operation.

When the well was ready to produce after the tubing was all in place this cast iron disc was broken by dropping a piece of steel on it from the top of the tubing. This "go-devil" was a steel bar about 1¼-inch diameter by 2 feet long and after it passed through the disc it came to rest at the bottom of the anchor joint of tubing and may be recovered when the tubing is pulled.

The 3-inch tubing was set with a bull plug welded in the lower end, and above this plug there was a joint of tubing with perforations opposite the sand. These perforations were made by slotting about 30 inches of the tubing with one-quarter-inch wide by 2-inch long slots.

The total area of the slots is much in excess of the total area of the tubing so, the oil and gas has free access to the inside of the tubing.

Flow Bean

Above this perforated section there is inserted an 8-inch long "bean" that is made out of a piece of shaft through which there has been bored a 2-inch hole the full length of the bean, and beveled at the top to permit the easy passage of

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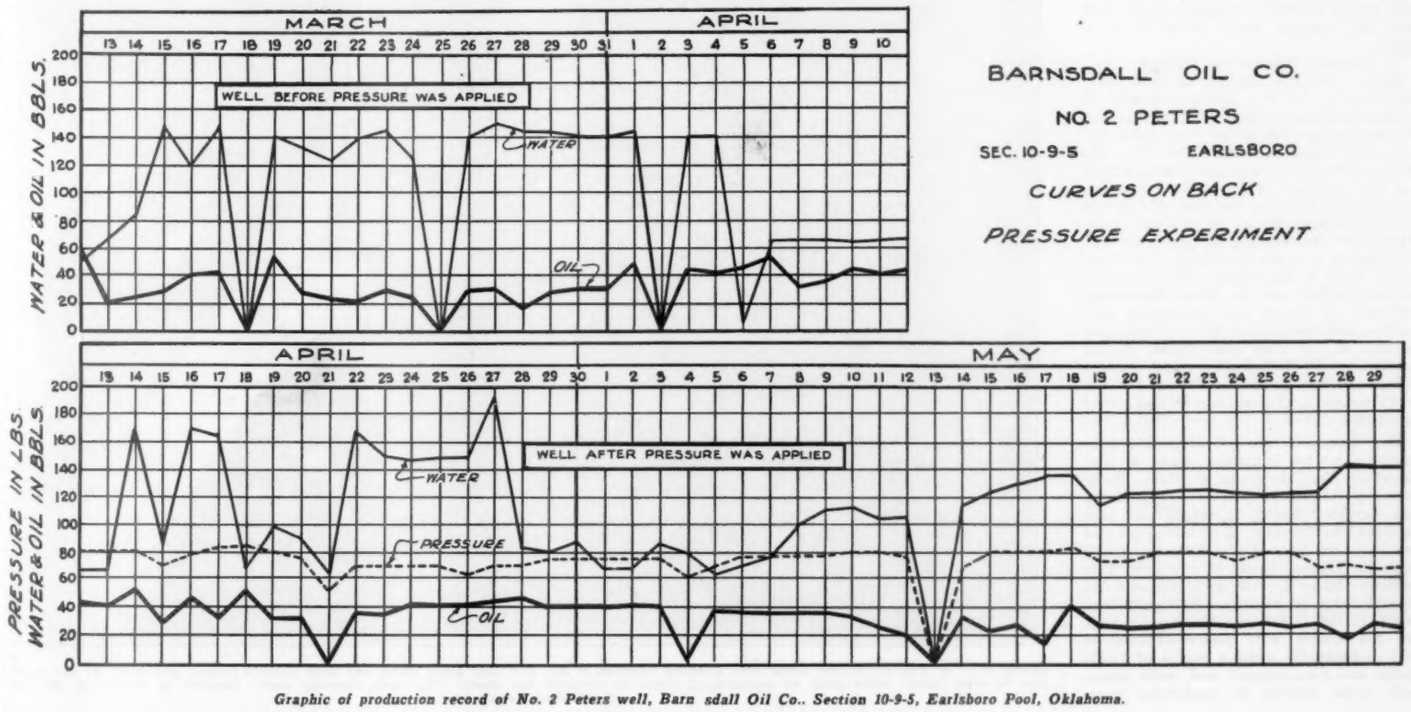

Graphic of production record of No. 2 Peters well, Barn sdall Oil Co.. Section 10-9-5, Earlsboro Pool, Oklahoma.

Remarkable Success in Exploration

The Texas Company Proves Six Louisiana Domes Discovered by Louisiana Land & Exploration Co.

By Neil Williams

HOUSTON, Tex., Aug. 19.—The success of The Texas Company, under an operating contract with the Louisiana Land & Exploration Co., in proving in rapid order within two months every one of the six domes drilled so far of the seven salt domes found by the latter company in the water bottoms and marsh lands of southern Terrebonne Parish, La., the opening of profitable oil production on two of these and the coast's largest gasser on a third, is one of the most remarkable achievements known on the Gulf Coast. Back of this success lies a rather romantic story of an exploration and development program believed unparalleled either on the Gulf Coast or elsewhere, not only in the accomplishments but also in magnitude and in the procedure of the exploration and development made necessary by the geographical characteristics of the territory involved.

The task undertaken by the Louisiana Land & Exploration Co. of geophysically exploring more than 2,000,000 acres of leases and fee lands spread from one end of the Louisiana coast to the other never had been equalled, and the discovery of nine entirely new salt domes, seven in Terrebonne Parish, one in Cameron Parish, and the other in Iberia Parish, within a period of nine months, or at the average rate of one a month, set a record for geophysical discoveries.

That the bulk of the holdings were under water, comprising numerous state water bottoms of beds of lakes, bays, sounds and bayous, or vast marshes largely in Terrebonne and parishes adjoining on the east, much of it subject to tides and overflows, poorly charted and inadequately mapped, necessitated an elaborate organization and preparation for carrying on the work, the development of a special technique and equipment for water operations of such large extent and careful foresight governing procedure in such virgin territory in which there had been no previous work to serve as a guide.

Biggest Wildcatting Project

Then, with the opening of this year, the launching by The Texas Company of actual development simultaneously on ten different properties taken over from the Louisiana Land & Exploration Co., including the nine newly discovered domes and the holdings of the latter company in Calcasieu Lake on the east side of the East Hackberry Dome, is believed to be the biggest wildcatting project ever undertaken by a single company. The Louisiana Land & Exploration Co. previously had drilled on its East Hackberry holdings, on which very profitable production has been found in one well, and on two of the nine new domes, in the southern part of Calcasieu Lake and in Vermillion Bay in Iberia Parish, but the seven domes in Terrebonne Parish never had been touched.

The demonstration of profitable production on the Louisiana Land & Exploration Co.'s holdings at East Hackberry, a liberal portion of which dome this company found to extend out into the lake, the bringing in of initial oil and gas wells on Lake Pelto, Dog Lake and Bay St. Elaine, three of the new Terrebonne Parish Domes, and encountering of promising oil sands on Caillou Island Dome in the latter parish indicates that the ten domes now under exploration will undoubtedly open a series of fields under one management and with essentially solid control of production in a manner probably never before realized on the Gulf Coast. The fact that these production discoveries as well as the proving of the remainder of the domes (except the undrilled East Bay Junop Dome) in Terrebonne Parish by finding cap rock and salt were the result of drilling only one test each on these domes is one of the most interesting points in connection with the operations.

No. 1-B Lake Pelto, discovery well of the Lake Pelto Dome. The picture was taken just a short time before the well was brought in.

Beginning of Exploration

The exploration and development of these tremendous holdings in southern Louisiana dates back to January, 1926, with the formation of the Border Research Corp., the predecessor of the Louisiana Land & Exploration Co., organized in May, 1927, to explore and operate on the holdings. The original holdings consisted of about 1,200,000 acres of leases to state water bottoms obtained in earlier years by various individuals under a system of competitive bidding prevailing in Louisiana. From various sources these leases had been assigned to Col. E. F. Simms, who contributed them to the Border Research Corp. To these leases were added some 700,000 acres of land owned in fee by H. H. Timken and associates, located largely in the marshes of Terrebonne Parish and parishes adjoining on the east. Another block of leases in Terrebonne and LaFourche Parishes amounting to about 140,000 acres also was added to the company's holdings by Sidney P. Allen and others so that the total available holdings were in excess of 2,000,000 acres.

It had been the intention to transfer the properties to some major oil company and some thought had been given to exploration by geophysical methods but nothing had been done along these lines when late in 1926 certain of these state leases began to reach their termination dates unless drilling operations should be started.

Under these conditions the company, under the direction of W. C. Hardcastle, vice president, and C. H. Lane, superintendent, started tests near shore in six bodies of water held under state leases. These included Sabine Lake, Calcasieu Lake, Grand Lake, Mallard Bay, all Cameron Parish, Vermillion Bay, Iberia Parish, and West Cote Blanche Bay and Grand Lake in St. Mary Parish. These locations were made without knowledge of subsurface structure except that gas seeps were known near a number of the tests, and the test in Cote Blanche Bay was presumably on the flank of that dome, one of the Five Island group which had been known for years.

None of these tests had been completed when the reorganization of the Border Research Corp. as the Louisiana Land & Exploration Co. was effected in 1927, but all the leases were in good standing as a result of the drilling just referred to. All later were finished as dry holes, the record of them being as follows: No. 1 Sabine Lake, abandoned at 3,335 feet; No. 1 Calcasieu Lake, 5,309 feet; No. 1

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Aerial view of Bay St. Elaine Dome area showing location of No. 1-B Bay Coon Road, the Gulf Coast's largest gas well. At the right can be seen "shot" holes made by seismograph crews in checking the dome. This area showing water location is typical of all the Terrebonne Parish work.

Artificial Methods of Oil Recovery

Mechanical Methods of Procuring Petroleum Production From Partially Depleted Wells Described and Discussed

By Charles H. Pishny
Production Engineer, Amerada Petroleum Corp.*

The petroleum industry is youthful, and opportunities for improvement in all branches have been many. The men in the business have grasped the opportunities and during the 10 years since the war changes little short of revolutionary have been made.

It is in the so-called artificial methods, although they are not strictly so, that there have been the greatest changes, and outstanding among them there has been put into practical use four new methods, i. e.:

1. Air-gas lift.
2. Controlled pressure operation.
3. Repressuring by air, or gas, or both.
4. Artificial water drive.

In this article it is intended to set forth briefly and quite in general the effects of the above methods on ultimate recovery, where ultimate recovery is taken to mean the amount of oil a property will finally produce within the economic limits of production.

It is not easy to establish a yardstick for the true measurement of advantages to be gained by the use of the so-called artificial methods. If it were possible to say definitely that a given amount of oil could be produced profitably by natural flowing and later by ordinary pumping methods, it would be easy to figure how much has been gained by the use of artificial methods.

But every year sees improvements, sometimes quite marked, in pumping equipment which change the length of the yardstick. To be sure, pumping is a function of producing oil when repressuring or a water drive is used, so that probably in the final analysis, a corresponding increase in oil in either case is the natural outcome.

Normal Decline

Let us first consider what usually happens in a type well, producing oil and gas from a sand reservoir. The well is drilled in, and flows oil accompanied by an appreciable quantity of gas. After a time the gas decreases or the fluid level drops, or both occur, and the oil flow declines until finally the well ceases to flow. It is then tubed and again flows. Then it ceases to flow through the tubing and is put on the pump.

Probably by this time the well has some water with the oil. If the well is properly operated it should produce many years, the oil decreasing and the water gradually increasing, until the well is no longer profitable and is abandoned. The production curve for such a well would look something like Figure 1.

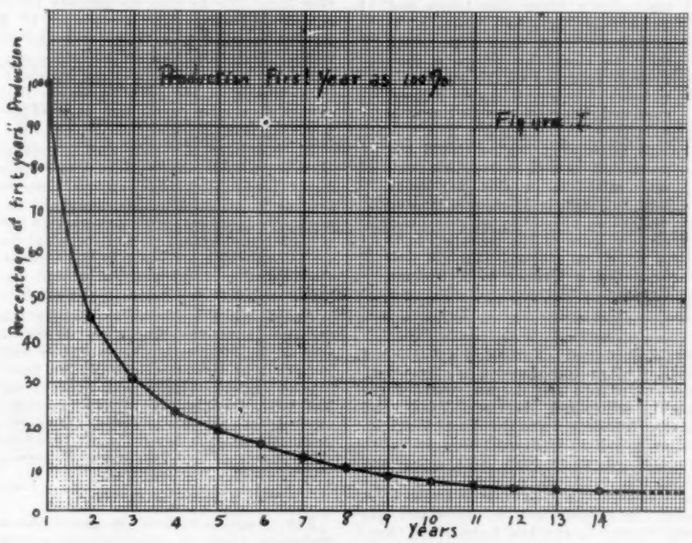
In this curve the first year's production is considered as 100 per cent. Every year thereafter the production will be less with consequently a lower per cent. In general, wells will perform somewhat as indicated. During the flush period of the first year the drop will be sharp. With each year the drop becomes less and less and the curve becomes quite flat.

Every well is an individual proposition with its own peculiarities. It is too much to expect individual wells to fit into a type curve. However, it is not too much to say that curves should be somewhat similar in general characteristics, provided that conditions are similar. For example, consider two producing areas which have similar type of production. The sands are similar in texture and porosity, the gas oil content about the same, and the sands are about the same depth. The logical conclusion is that the two areas should give somewhat similar results when similarly operated.

Every flowing well at some stage comes to a point when it will not flow naturally—the fluid level may be high but the gas in the sand is insufficient to force the oil out of the well. In such a case the air-gas lift supplies the energy to remove the oil and the energy of the gas in the oil is used chiefly in the work of bringing the oil to the well.

Some competent observers think the air-gas lift not only gets the oil out of the sand more quickly than other means, but it actually increases the amount of oil recovered. Others are not so sure. There is plenty of room for diversity of opinion.

In Greater Seminole, which was the scene of tremendous air-gas lift development, experience shows that this method is especially superior to the pump or swab for large volume. Some operators even use it for wells that have low fluid levels. The air-gas lift keeps the oil moving steadily from the sand to the surface, and this steady movement has a tendency to keep the sand open and the oil moving evenly into the well. Due to the large volume taken out there may be some tendency to impoverish the sand near the well and make it favorable for channeling of gas or coning of water.



Type curve for normal decline.

It might be contended that other lifting methods such as pumping, could remove the oil as well as the air-gas lift, perhaps not in such volume at first, but the decline would be less rapid. While most evidence from Seminole bears in the opposite direction, Figure 2, the curve of a property in Kansas producing from a sand at about 2,100 feet, shows how pumping had a steadying influence.

The lease had been changed from the natural flowing stage over to the air-gas lift, and in November of 1928 put on the pump. From this point the curve flattens, showing how well the property has held up under the pump.

So in the case of the air-gas lift, generalization may be misleading. However, it is reasonably safe to say that the ultimate production of Seminole has been increased by use of the air-gas lift, though to what extent will probably never be determined. In most other fields the data are insufficient to be sure of anything.

Controlled Pressure

"Controlled Pressure" is taken in this case to mean what is usually known as "back pressure." "Controlled pressure" is considered among technical men as being the better term.

Suppose the gas energy in a certain well is so great that if allowed to flow open into the atmosphere it would exert a force sufficient to raise the oil 500 feet above the surface of the ground. Obviously this is a waste of energy. If the well in question is produced under controlled pressure, the energy will be conserved so that only enough to bring the oil to the surface will be used. The im-

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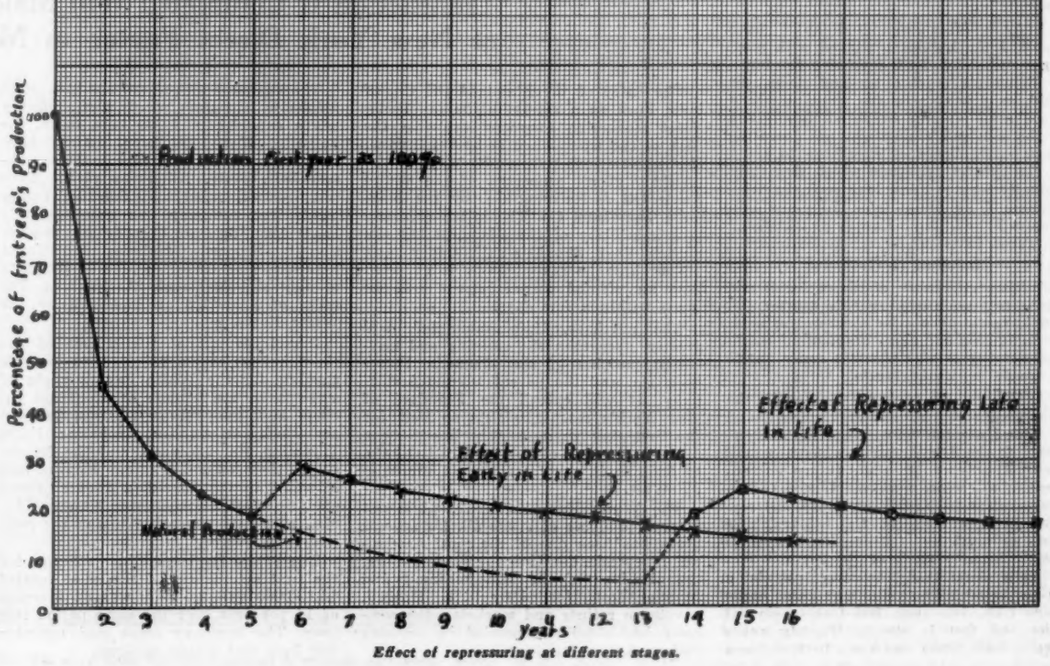
Figure 4



Effect of repressuring at different stages.

*This is the second of a series of articles on crude oil production, the first of which appeared in the August 15 issue of The Oil and Gas Journal.

Scientist Doesn't Pretend to Find Oil

But He Figures Out Where Oil Should Be and Sometimes Is Able to Keep the Operator from Blowing His Roll in the Wrong Place

By Dr. Charles N. Gould
Director of the Oklahoma Geological Survey

This review of the developments of the methods of finding oil really contains nothing new. It might be well in opening to determine rather definitely just what the geologists and other scientists can do and what they can not do in this matter.

All know the popular conception of the work of the geologist in oil finding, namely, that the geologist is some sort of seer or soothsayer, a kind of supernatural being, with occult vision who in some unknown manner tells just where underground the oil is located. In order to illustrate what I mean, let me for a moment adopt the Socratic method:

What is the geologist supposed to do?
To find oil.
Does the geologist find oil?
He does not.
What does find oil?
The drill.
Why, then, a geologist?
Echo.
What excuse has the geologist for cumbering the earth when by his own free admission he does not do the thing he is supposed to do?
Again echo.

Back Off and Get Another Start

This brings us up against a dead wall. Let's back off and get another start. That is to say, let us ask the question in a somewhat different way, namely, What does the geologist claim to be able to do for the oil man? The answer is easy. He claims to be able to tell sometimes where the oil should be, and occasionally to be able to keep the oil man from blowing his roll in the wrong place.

No one knows as well as does the geologist that there is only one sure oil finder, the drill, and he also knows that one man can see into the ground just as far as another man.

No reputable geologist would for a moment think of guaranteeing oil at any particular place. All he can ever hope to do is to determine as far as possible where oil is most likely to occur, and then it is up to the oil man to find out whether or not the oil is actually there. I have sometimes said that I lose interest in an oil field six months ahead of development.

I have often wondered as I have watched the highways packed with moving automobiles, as I have seen the farmer drive his tractor up and down the field, as I have seen the airplane like a great eagle soaring overhead, how many of the men and women who are operating these swift machines ever stop to think of the debt of gratitude which they individually owe to some lone geologist who, perhaps 5 or 10 or even 20 years ago, tramped the hills of Kansas or Oklahoma or Texas in search of oil indications.

Indebted to Geologist

Without the work of the geologist and the other scientists in this matter, oil would certainly not be as abundant as it is today and the price of gasoline would probably be so high that for many people it would be unobtainable.

Petroleum, or rock oil, occurs in the stratified rocks of the earth's crust, and is found all the way from the surface, down to the deepest point which the drill has yet penetrated. Long before the advent of the white man, on Seneca Indian Reservation in New York State, oil from springs was collected by Indians, and used as medicine. Oil seeps and springs occur in many parts of the earth.

As a usual thing, however, petroleum is produced from wells, and these wells vary from less than 100 feet to several thousand feet in depth. Twenty years ago a well 2,000 feet deep in Oklahoma was a deep well. Nowadays a 4,000-foot well is often considered a shallow well. Ten years ago the deepest well in the world, somewhere between 7,000 and 8,000 feet deep, was in West Virginia. Later a well in California was drilled to a depth of more than 8,000 feet, and this well produced a small amount of oil. Within the past few months, however, the deepest well in the world has been drilled in the Big Lake Field, Reagan County, West Texas. This well is 8,523 feet deep and at last reports was producing nearly 2,000 bbls. a day of a very high-grade oil.

Four Essentials

Long experience in many lands has demonstrated that in order for oil or gas to be found in commercial quantities at any particular place, at least four things are necessary. These essentials are source of supply, reservoir rock, cap rock and structure.

The first question that the geologist is asked is: How is oil formed? The best answer is: No one knows. Let me go a step further and say that no one has ever been able to give an entirely satisfactory definition of petroleum. If I turn to the dictionary I find this definition: "Petroleum, An inflammable oily, liquid, mixture of numerous hydrocarbons, chiefly of the paraffin series, that exudes from the earth, and is used extensively for heat and light."

If, however, we ask the petroleum chemist, who is supposed to know more about the subject than anyone else, to give us a definition of petroleum, he immediately launches into a dissertation full of high-sounding names and technical descriptions which are scarcely to be understood by the ordinary scientist and certainly not comprehensive to the layman.

Again, when we come to classify oils we find ourselves against a difficulty. One of the most recent texts on the subject, that by Grouse of the Mellon Institute of Industrial Research, brought out last year, frankly says: "No successful method for the classification of petroleum oils has yet been devised," and he then goes into several pages of discussion to prove why this is true.

Two Theories of Oil's Origin

For years scientists in many lines, geologists, chemists, physicists, have been working on the problem, and many theories to account for petroleum genesis have been formulated. Of these various theories, the two most common may be called the inorganic theory and the organic theory.

The inorganic theory postulates that oil and gas have been formed in the rocks by the action of very hot water on the carbides of certain of the metals, much as we use water with calcium carbide to produce acetylene gas. The chemist has even gone into the laboratory and in this manner has formed inorganically a substance which in many ways is analogous to petroleum. It may be possible that nature in her underground laboratory is doing the same thing, and that part, at least, of our petroleum has been formed inorganically.

At the present time, however, I think I am safe in saying that more than 90 per cent of the working chemists, geologists, and physicists throughout the world, who have given the matter thought and are qualified to speak with authority, now believe that oil and gas have been formed organically in the earth. That is to say, we now believe that the various organisms, plants and animals, mostly minute forms, which were buried in the ooze and mud laid down in the far-gone, prehistoric oceans, have given up their organic parts, which, by long-continued, natural distillation, have formed petroleum.

Fossil Remains Found

Fossil remains of these various plants and animals are found today in the rocks, but these fossils are usually only the impressions or skeletons of the original organisms. According to this theory, the live part of the plant or animal has gone to make petroleum.

However, if we accept the organic theory to account for the origin of petroleum and natural gas, another difficulty immediately confronts us. Was the ultimate sources of these materials plant life or animal life? Geologists and chemists are still divided into two camps in this matter, each contending valiantly for its own particular ideas.

A few years ago most of us believed that we must look to animal remains for

HERE IS A PRIMER OF PETROLEUM GEOLOGY

Complaint is heard at times that writers on petroleum geology in presenting the elementary facts of the science often use terms not understood by the nontechnical reader and even leave gaps which must be closed up before a comprehensive grasp of the subject is possible. The result is that a hazy, confused impression sometimes is left on the mind.

It is believed Doctor Gould has succeeded so well in avoiding common mistakes in this particular that this article is especially commended as presenting an unusually clear picture of the essential facts of petroleum geology. It might well be called a Primer of Petroleum Geology.

Magnolia May Purchase White Eagle

Transaction If Completed Will Make Standard of New York Direct Factor in Middle West

The entry of the Standard Oil Co. of New York as a direct factor in Middle West marketing appeared probable the first of the week when it became known that negotiations were under way for the purchase of all properties of the White Eagle Oil & Refining Co. by the Magnolia Petroleum Co. The latter company is a subsidiary of the Standard Oil Co. of New York. Should a satisfactory basis of purchase be agreed to it is expected that an official announcement will be made within a few days.

The purchase, if consummated, will greatly strengthen the refining and marketing position of the Magnolia Petroleum Co. and the parent Standard company. It will extend the Standard of New York's market outlets so that for the first time in its history it will be a direct competitor of the Standard Oil Co. of Indiana in several states of the Middle West.

The White Eagle company, while not a large producer of crude oil, for several years has been one of the most successful independent refining and marketing organizations of the Mid-Continent and Middle West. Headed by L. L. Marcell, a veteran refiner and marketer, the company has steadily expanded its refining and marketing facilities.

The company at present operates three refineries. The Fort Worth, Tex., refinery has a capacity of 4,000 bbls. daily, the Augusta, Kans., refinery, 10,000 bbls. daily and the Casper, Wyo., refinery, 1,000 bbls. daily. All three plants have complete skimming and cracking equipment. The company has approximately 3,000 bbls. daily net crude oil production in Kansas, Oklahoma and Texas with scattered lease holdings in all parts of the Mid-Continent. A total of 363 miles of pipe line are operated by the White Eagle.

Practically all of the output of the three refineries is required to provide gasoline for the White Eagle's chain of stations in the Middle West. These include bulk and service stations between the Rocky Mountains, including Utah, Wyoming and Colorado, and the Mississippi River extending from Kansas and Missouri to the Canadian border. These operations are directed from Kansas City, Mo., where the general offices of the company are located.

The White Eagle gasoline gallonage for the first six months of this year totaled 46,166,000 gallons. This was an increase of 14 per cent over the same period last year. The company owns and operates 898 bulk and filling stations.

The White Eagle operations can be readily absorbed by the Magnolia company. The latter's crude oil production and pipe line facilities are convenient to the White Eagle properties. In the marketing end, the Magnolia company is a large distributor in Texas, Oklahoma and Arkansas with a few bulk station and retail station outlets in some of the adjoining states.

With the White Eagle stations, the Standard of New York's marketing operations will cover a large part of the United States. The parent company is the principal distributor in New York State and the New England states. The General Petroleum Corp., a subsidiary, is a major distributor in California and other West Coast states.

A recent check showed that the Standard Oil Co. of New York with its Magnolia and General Petroleum subsidiaries had a refining capacity of 216,500 bbls. of crude oil daily. The Standard of New York with refineries at Greenpoint and Buffalo, N. Y., and Providence, R. I., had a capacity of 38,500 bbls. daily. The five plants of the Magnolia company had a capacity of 80,000 bbls. daily and the General corporation's four refineries in California had a capacity of 98,000 bbls. daily.

the source of petroleum. But as time has gone on, and more and more studies have been made by competent men, the pendulum seems to have swung to the other extreme. At the present time the consensus of opinion among scientific men seems to be that plants and not animals were the chief sources of petroleum. As David White, famous plant paleontologist of the United States Geological Survey, says, "The chief sources of petroleum must be sought in some waxy and resinous parts of seaweed and other marine plants which grew in prehistoric times and were buried in the rocks."

Problem Still Unsolved

But none of us think that the problem of the origin of petroleum has been definitely solved. Those of us who have been in the thick of the fight for more than a quarter of a century have noted the pendulum swing back and forth but today no one can say where it will come to rest. Within the past two weeks I was discussing this matter with one of the best petroleum chemists in the country, and he told me frankly that he had no answer to the question. He said that at various times he had taken up lines of investigation looking toward the answer to the question of how petroleum was formed, and in every case had run up against a blank wall.

A few years ago many geologists and chemists followed Ralph Arnold in his attempt to explain the origin of much of the California oil from diatoms, but I note within the last year or two certain investigators have had the temerity to question the almost sacred Arnold theory of the diatomaceous origin of petroleum.

My chemist friend tells me it is altogether possible in the laboratory to produce oil inorganically. One of the best geologists in North America, a man whom I have known for many years and whom I consider one of the greatest scientists of our profession, told me within the past 30 days that he had begun to doubt the organic theory of oil accumulation and was ready to accept in part at least the inorganic theory.

Ignorance Frankly Admitted

One of the greatest teachers of oil geology in America begins his course of lectures with a frank statement to his pupils that at the present time we do not know how oil is formed.

Now all this is nothing new, but simply a brief recapitulation of a few of the well-known facts. The practical thing is that while most of us do not know how oil is formed, neither do we care. The thing that we are most interested in is to find where the oil is and get it out of the ground and into the tank.

The second essential is a reservoir rock, which is simply some porous stratum, a rock with small pores, openings, or interstices of such a character that it will serve as a catchment basin in which the oil may accumulate. In general, this porous rock is a sandstone or in the parlance of the oil man, an "oil sand." Sometimes, however, it is a porous limestone, a shale or a conglomerate, or it may be some other form of rock. There is no virtue in any rock per se. A sandstone that contains oil is an oil sand, and conversely, any sand that does not contain oil is not an oil sand.

The third essential is a cap rock, or some dense, fine-grained formation lying above the "oil sand," which will retain the oil and hold it down. The cap rock is usually a dense fine-grained shale,, although it may be a dolomite or some other form of rock.

Structure Chief Thing Sought

The fourth essential, and the one which is the chief thing sought by the geologist, in his search for oil, is some form of structure.

Geologists believe that all stratified rocks, the three most common forms of which are limestones, sandstones, and shales, were laid down approximately level on the bottom of prehistoric oceans. The foundation stone of the science of geology is the statement, "All land has been formed under water."

As you have ridden on the train in a mountainous country you have doubtless seen from the car window ledges of limestone and sandstone in the railroad cuts along the side of the hills, usually dipping at an angle, but sometimes lying level. These beds were originally deposited practically level on the ocean bottom; limestones, sandstones, and shales in alternating sequence, one above another. Often these beds approximate many thousands of feet in thickness.

After long ages these beds were raised above the ocean, and the country became dry land. Very often in the process of elevation from the ocean, the sediments were squeezed together and tilted. Just how this was accomplished does not concern us at the present time. But what I want to emphasize is the fact that in the process of squeezing the various ledges were thrown into a great series of waves, washboard fashion.

The arches, or up-shoved parts, we call anticlines. The troughs, or downfolded parts, we call synclines. These anticlines and synclines are of various sizes, varying from a few inches across, to hundreds or even thousands of miles. The axes of the anticlines and synclines sometimes extend on the surface for long distances. A short anticline, where the rocks dip in all directions from a given point, we call a dome. A short syncline we call a basin. A basin is shaped something like a saucer or butter bowl, but if the saucer or butter bowl is inverted it will form a dome.

It is this form of structure that is the fourth and in many ways the most important factor in the accumulation of petroleum. Oil and gas, being volatile substances, lighter than water, tend to ascend to the highest point in the rocks in which they are contained.

This fact can be illustrated best perhaps by the example of a bottle partly filled with oil and water. Let us take an ordinary bottle and pour into it water and oil in equal parts, filling the bottle two-thirds full, leaving one-third filled with air, which is a gas. If we cork the bottle and agitate it violently and then let it come to rest, the three substances in the bottle, water, oil, and air, will arrange themselves in the order of their specific gravity. Water, the heavier of the three substances, will go to the bottom. The lighter substance, air, will go to the top, and oil, which is lighter than water and heavier than air, will inva-

(Continued on Page 151)

Testing Piceance Creek Anticline

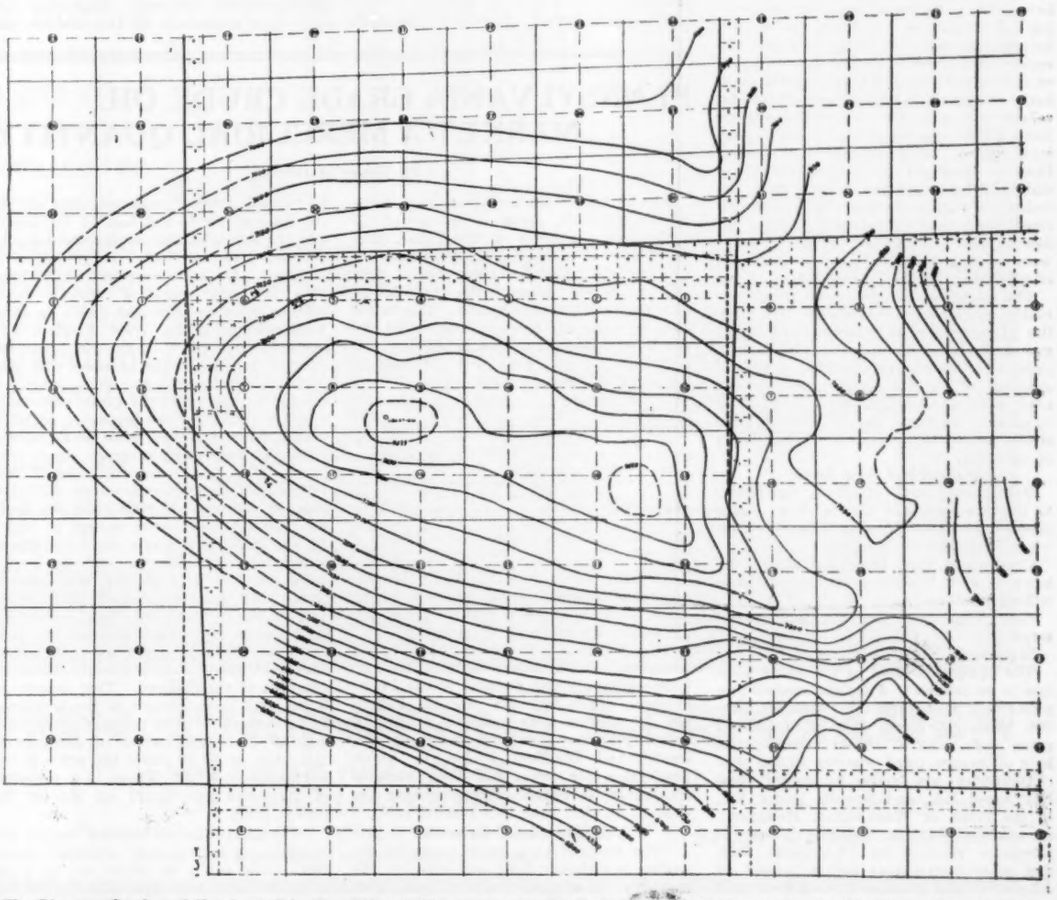
Search for Production in the Green River Formation of Tertiary Age Is Being Made in Northwestern Colorado

By Tolbert R. Ingram

DENVER, Colo., Aug. 17.—A wildcat operation in northwestern Colorado which is looked upon by oil men as one of the most interesting tests under way in the Rocky Mountain area and which is drilling close to the objective horizons is the White Eagle Oil & Refining Co.'s No. 1-A Fordham, NW NW SW, Section 9-2s-96, on the Piceance Creek structure in Rio Blanco County. The importance of the test lies principally in the fact that the drilling is entirely in the Green River formation of Tertiary age, horizons in which but little exploratory drilling for oil has been done in this territory, but which are highly productive in California. The Green River is the formation which contains the oil shales of western Colorado and eastern Utah.

The Piceance Creek anticline lies approximately 35 miles to the southeast of the Rangely structure, 20 miles south of the White River gas field which is being tested for oil by the Texas Production Co., and 35 miles to the southwest of the productive Iles and Moffat Domes in Moffat County. The existence of the structure has been known for many years and was noted as far back as 1877 when it was examined in a general way by. F. V. Hayden and referred to in his "Geological and Geographical Atlas of Colorado and Adjacent Territory." He shows the topography of the area in his atlas but does not go into details as to minor structures over the enormous area he covered. E. G. Woodruff and David T. Day examined the area in 1917 and the results of their investigations were given in the United States Geological Survey Bulletin No. 381 on "Oil Shale of Northwestern Colorado and Northeastern Utah," published in 1919. They did not attempt, however, to show structures in the Green River formation and the report primarily was to furnish the public some idea of the richness of the oil shale deposits in that formation. Dean E. Winchester also reported on the area in the United States Geological Survey Bulle-

(Continued on Page 150)



The Piceance Creek anticline located in Townships 1s-95w, 2s-95w, 1s-96w, 2s-96w, 3s-96w, 1s-97w, 2s-97w, in Rio Blanco County, Colorado. This is regarded as an important prospect for oil and a location has been made for a test by the White Eagle Oil & Refining Co. in Section 9-2s-96w.

Oil Company Use of Inland Waterways

Rivers Becoming an Increasingly Important Factor in the Transportation of Refined Products, Chiefly Gasoline

By Charles E. Kern
Washington Bureau, The Oil and Gas Journal

WASHINGTON, D. C., Aug. 19.—A recent survey showing the use made by oil companies of the inland waterways for the distribution of products has brought forth much interesting information.

Inland waterways are referred to by many oil companies as having provided transportation in many localities that cannot be reached by railroad, with the added advantage of lower freight rates.

The extent to which water transportation is being employed is indicated by the large amount of equipment oil companies are using and the constant growth in the use of such transportation is ample evidence that with the more complete development of the system of inland waterways there will be an equivalent increase in the use made of them by the oil companies.

The inland waterways are chiefly utilized at this time for the transportation of refined products, largely gasoline. The economic features of the pipe lines for the transportation of crude oil have placed them in a class by themselves that even the cheapness of water transportation is not likely to interfere with.

Rivers and Harbors Survey

The Oil and Gas Journal recently requested the National Rivers and Harbors Congress, which has its headquarters in this city, to make a survey showing the use of inland waterways by oil companies, and its secretary, S. A. Thompson, has forwarded a series of inquiries to leading oil companies to obtain the desired information with the suggestion that the replies would be of interesting value in compiling a statement which would show both existing facts and prospective developments, and also to secure suggestions as to improvement in our waterways which would contribute to the efficiency, economy and convenience of such navigation. He added that information that had reached him from various sources during recent months indicated the oil interests of the country were making a large and increasing use of waterways of the United States.

The questions put to the oil companies invited statements relative to the benefits of operation on waterways, location and character of further improvements in waterways which are desirable, kind and amount of traffic carried, waterways used, with number and capacity of craft employed, showing the relative use of steam, motor, barge, tank and other forms of carrying.

Standard of New Jersey

Subsidiaries and affiliated companies of the Standard Oil Co. of New Jersey operate on the following inland waterways of the United States:

Chesapeake Bay, Hampton Roads, Albemarle and Pamlico Sounds and their tributaries.

New York and New England waterways.

Mississippi and Ohio Rivers.

The equipment used in the above services is as follows: Fifty-six nonself-propelled bulk oil barges, total capacity 526,000 bbls.; 12 steam towboats of 6,000 gross tons, and 7 Diesel self-propelled bulk oil barges, total capacity 36,252 bbls.

Deliveries are made by barge from Baltimore, Md., and Sewells Point, Va., to the cities of Washington, Richmond, Alexandria, Norfolk, Newport News; to tidewater stations on Chesapeake Bay, and other distributing points located on Albemarle and Pamlico Sounds and their tributaries.

Activities on the New York and New England waterways are centered around Bayonne, N. J., and Everett, Mass., with various delivery points between Portland, Me., and Albany, N. Y.

Headquarters for operations on the Mississippi River are at Baton Rouge, La., with traffic going as far north as Memphis Tenn., and south to New Orleans, La.

Shipments on the Ohio River are from Parkersburg, W. V., as far south as Huntington, W. Va., on the Ohio River; to Montgomery, W. Va., on the Kanawha River, and to Fairmont, W. V., on the Monongahela River.

The Texas Company

The Texas Company states that it is using waterways to a certain extent, and now has under consideration the advisability of extending this service.

"We find," says W. G. Mitchell, assistant to the president, "the waterways give an easy access to territory which in some cases might be difficult to handle by other means, as for instance, the waters of Pamlico and Carrituck Sounds of North Carolina, where our products are handled by contract in power barges. The marine freight rate is usually much lower than any other kind of transportation.

"We are interested in seeing the future development of the Sanitary Drainage Canal from Chicago on past Lockport, Ill., to connect with the Mississippi River.

"We are watching with interest the improvements in the Ohio and Mississippi Rivers.

"The completion of the intercoastal canals along the Gulf Coast is of interest to us, and we await the completion of the whole project at a uniform depth of 9 feet and a width of 100 feet.

"The development of the entire inland water route from Miami, Fla., to Beaufort, S. C., will be of great assistance along the South Atlantic Coast."

Referring to equipment used by The Texas Company, Mr. Mitchell gives the following summary:

Hudson River (New York to Albany)—2 steam tugs, gross tons 168, 1 horsepower 600; 2 tank barges, gross tons 433.

Long Island Sound—1 power barge, Diesel, gross tons 484—B. horsepower 400; 1 tank barge, gross tons 433.

New York Harbor—1 power barge, Diesel, gross tons 226—B. horsepower 200; 1 steam tug, gross tons 168—I. horsepower 600; 5 tank barges, gross tons (three 398) (one 607) (one 241).

Chicago Drainage Canal—1 steam tug, gross tons 81—I. horsepower 200; 1 tank barge, gross tons 433.

Chesapeake Bay and tributaries—2 power barges, Diesel, gross tons 484—B. horsepower 400; 1 power barge, Diesel, gross tons 226—B. horsepower 200; 1 power barge, Diesel, gasoline motor, gross tons 28—B. horsepower 65.

Port Arthur and Houston Ship Canal—1 power barge, Diesel, gross tons 484—B. horsepower 400.

Tide Water Oil Co.

"The Tide Water Oil Co.," states J. Byron Deacon, assistant to the president, "is convinced of the soundness of water transportation wherever conditions are such that operations of this nature can be properly and economically introduced, and has within the past few years evidenced its belief in this direction by the construction of numerous bulk plants located on navigible waterways, as well as the addition of facilities (pipe lines, etc.) to others for the purpose of making them accessible to such waterways.

"In so far as our eastern operations are concerned on inland waters, we would be interested in the further development and improvement of the New York State Barge Canal and tributaries thereto, the proposed ship canal across New Jersey from Morgan to Bordentown on the Delaware River, and in the further development of the Delaware and Chesapeake Canal, connecting the Delaware River with the upper reaches of Chesapeake Bay.

"Of even more importance to us, however, as operators of a fleet of sea-going tank steamers, is the completion of the existing project for the improvement of Kill von Kull and Arthur Kill behind Staten Island, as well as the further development and improvement of the Sabine-Naches and Houston Ship Canals in Texas.

"The inland water craft operated by subsidiary companies of Tide Water Associated Oil Co. comprised the lighterage fleets of Tide Water Oil Co., East Jersey Railroad & Terminal Co., and Associated Oil Co. The equipment of these companies follow:

"Tide Water Oil Co.—One 1,800 deadweight tonnage tank steamer, twelve thousand 42-gallon barrels capacity; one 1,885 dead weight tonnage motor tank vessel, sixteen thousand 42-gallon barrels capacity; 2 nonpropelled bulk barges, five thousand 42-gallon barrels capacity; 1 nonpropelled bulk barge, three thousand five hundred 42-gallon barrels capacity; and 1 nonpropelled bulk barge, seven thousand 42-gallon barrels capacity.

"The selfpropelled boats operated out of Bayonne transport gasoline to various bulk plants located along the Atlantic Seaboard from Portland, Me., to Norfolk, and to Hudson River and Long Island Sound points. In so doing, they navigate the Hudson River as far as Troy, the Connecticut River as far as Hartford, the Delaware River as far as Philadelphia, Chesapeake Bay as far as Baltimore. In the near future, it is expected that vessels of this type will be required to navigate the New York State Barge Canal.

"The nonpropelled barges are used largely for fuel oil deliveries in New York Harbor, and its environs, although deliveries of gasoline in equipment of this kind are also made to points located on the Hudson River and Long Island Sound.

"In 1928 these vessels transported 3,784,482 bbls. of gasoline and 2,394,368 bbls. of fuel oil, which in 1927 corresponding tonnages were 3,112,316 bbls. of gasoline and 2,047,233 bbls. of fuel oil. This entire tonnage was transported in bulk.

"East Jersey Railroad & Terminal Co.: 2 steam driven oil firing tug boats; 1 steam driven coal burning lighter, and 16 nonpropelled deck lighters.

"The operations of this fleet are confined almost entirely to New York Harbor lighterage limits. Freight transported by this equipment consists of oil and other petroleum products in drums, cases, barrels, packages, etc., and in 1928 amounted to 178,898 tons as against 204,980 tons in 1927."

Standard of Ohio

The Standard Oil Co. of Ohio, of which W. T. Holliday is president, states that

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PENNSYLVANIA GRADE CRUDE OIL MARKET A MERCURIAL QUANTITY

By James McIntyre

Recent reductions in the market price of Pennsylvania grade crude oil of 25 cents each for most of the crude, was the result of a small overproduction indicating the mercurial character of that market, which takes little to change either upward or downward. The latest change made on Friday, August 16, by the Joseph Seep Purchasing Agency, resulted in the following new schedule of prices for oil run after July 1:

Penna Grade Oil in New York Transit Lines (New York)	3.30
Bradford District Oil in National Transit Lines (Pennsylvania)	3.30
Penna Grade Oil in National Transit Lines (Pennsylvania)	3.30
Penna Crude Oil in Southwest Pennsylvania Lines (West Virginia)	3.25
Penna Grade Oil in Eureka Pipe Line Lines (Pennsylvania)	3.15
Penna Grade Oil in Buckeye Pipe Line Lines (Ohio)	2.95

The Tidewater Pipe Co. and other independent buyers pay a premium of 25 cents over the above posted price for crude purchased in their territory.

The Oil and Gas Journal has called attention before to the delicate balance between supply and demand in the Pennsylvania grade territory, and on February 14 of this year sounded a note of warning against overproducing in the Allegany and Bradford Fields, in which production for years has been steadily increasing by reason of repressuring the sands. At that time this journal said:

Peculiar Crude Situation

"The Pennsylvania grade crude oil situation is different from any other in the industry. Too much crude is being produced in California, Oklahoma and Texas. The recently lowered prices on all 'sweet' crudes produced west of the old Eastern fields and east of California was the result of this overproduction. In the old Eastern fields the situation is different. In that area about 64,000 bbls. of a particular grade of crude is available to refiners from the fields in New York, Pennsylvania, West Virginia and southeastern Ohio. In the past year the demand for the crude exceeded the production by about 5 per cent, which is enough to have sent the crude price skyward in 1928. At the beginning of 1927, with a highest posted price of $3.15, the stocks of Pennsylvania grade crude held by the pipe line companies were 3.721,106 bbls. Stocks increased to 4.225,583 bbls. by January 1, 1928, and the highest posted crude price sagged to $2.80. During 1928 there was a small but steady withdrawal from storage and the posted price went to a high for the year of $3.85. At the beginning of 1929 stocks had fallen to 2.927,781 bbls., indicating an average withdrawal through the year of about 3,546 bbls. per day, an indication that production was only about 95 per cent of the demand. That margin of 5 per cent meant much to the producer. It boosted the posted price of crude to a high of $4.10 per barrel in January of this year, or $1.30 above the price at the beginning of 1928. There is a premium of 25 cents per barrel on top of the posted price.

"The small margin between supply and demand (as indicated by available statistics) could easily be wiped out by a too intensive and too rapid drilling of the Bradford and Allegany Fields. It be-

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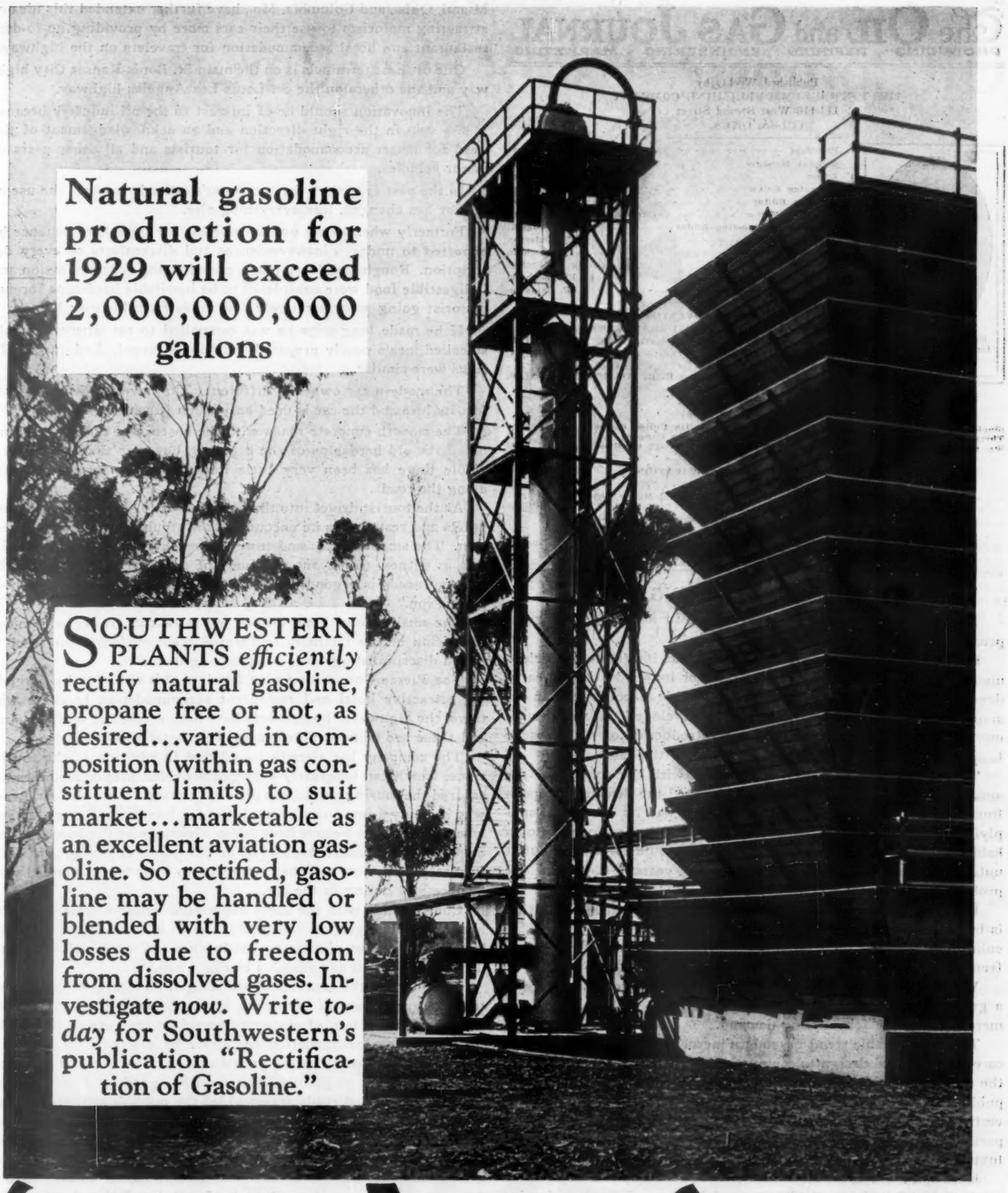

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MERITS WATCHING

The oil industry should be interested in anything that gives promise of increasing the use of its products.

Perhaps unfortunately since the period of its greatest development it has never had to make a market for its goods. In the early days it had to, and John D. Rockefeller and his associates set an example of how to do it by the way they developed the world-wide market for their kerosene through the introduction of the kerosene lamp even in the most backward countries of the earth.

That pioneering necessity disappeared with the coming of the automobile. The automotive industry created the demand for gasoline and lubricating oil and the oil industry had its hands full supplying the market thus developed. This naturally developed into an habitual confidence that growing demand would assure an outlet until the overproduction of the past few years precipitated the problem of disposing of a surplus stock.

Even yet there are many in the industry who think this condition is but temporary and continue to concentrate their efforts, not in enlarging the use of their products, but in seeking to win trade away from competitors.

Yet the experience of other industries has proved that there is a greater opportunity in developing wider use for goods than in mere competition for existing demand.

The most notable trend in modern merchandizing methods is the carefully planned design to stimulate new consumption by creating the desire for possession or enjoyment upon the part of the buying public. That is the keynote of the message in most of the great advertising campaigns of the chief merchandizing businesses, more particularly those dealing with what were formerly considered luxuries.

Here and there in the oil industry there are companies fully alive to these possibilities, actively engaged in promoting plans for inducing motor car owners to use their cars to better advantage.

The Oil and Gas Journal has from time to time called attention to the advertising campaigns by some of these companies designed to secure greater consumption through encouraging touring during the summer and week-end and evening pleasure trips by motor.

The Pierce Petroleum Corporation has been developing a plan of this kind from a different angle. Its new terminals at Tulsa and Miami, Okla., and Columbia, Mo., have further extended this idea of attracting motorists to use their cars more by providing up-to-date restaurant and hotel accommodation for travelers on the highways.

One of these terminals is on the main St. Louis-Kansas City highway and the others on the St. Louis-Los Angeles highway.

The innovation should be of interest to the oil industry because it is a step in the right direction and an acknowledgement of the need for better accommodation for tourists and all other users of motor vehicles.

In the past few years the car owner's attitude towards the use of his car has changed, like everything else.

Formerly when he set out to drive his car for a long distance he expected to undergo inconveniences and discomforts of every description. Rough and dusty roads, poor lodging accommodation and indigestible food were considered to be inevitable hardships for any motorist going a comparatively few miles from his own home.

If he made long trips he was compelled to eat where he could so-called meals poorly prepared and poorly served. Lodging conditions were similar.

The modern car owner is different. The novelty of driving has lost its lure and the car is used only when it can be enjoyed.

The smooth concrete roads with the absence of dust have eliminated the old hardships of the highway, but over the country as a whole there has been very little improvement in accommodation along the roads.

As the tourist drives into the larger cities to seek the better-class hotels and restaurants he encounters the troubles of traffic congestion. The smaller cities and towns offer only inferior accommodation as witness the recent testimony of Abe Martin that "what the country needs is a good cup of coffee in towns of less than 5,000 population."

The smaller town hotel keeper and restaurant owner seldom has the vision or the facilities to furnish accommodation for what is now a discriminating trade—the touring motorist.

The Pierce Corporation plan fits into this situation by furnishing attractive hotel and restaurant accommodation to those who travel the highways. Restaurants have been erected at several points and these are being supplemented with hotel accommodation.

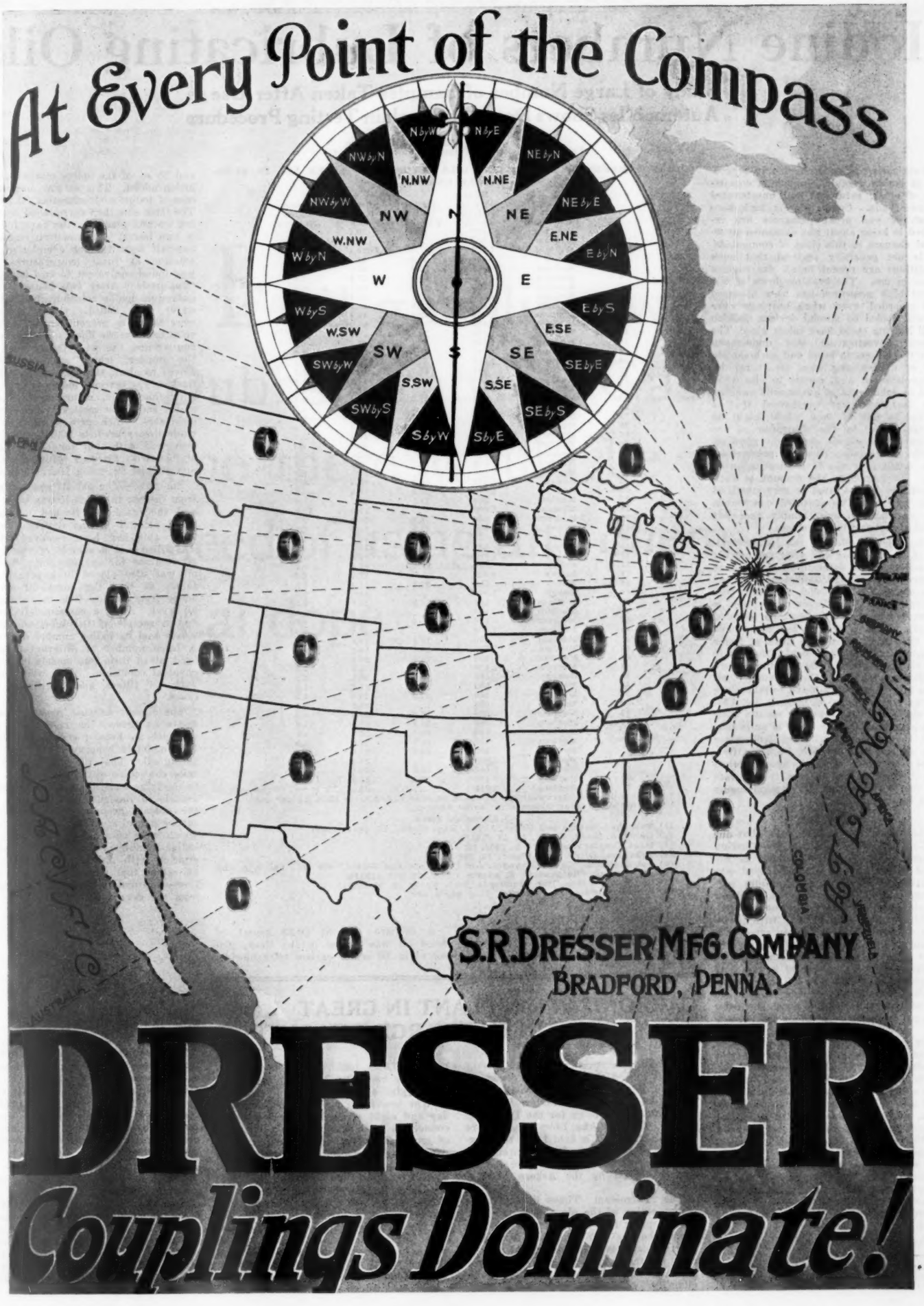
The company has already found that in addition to the tourist trade, which can be greatly enlarged provided proper facilities are assured the touring public, the plan has attractions for the car owner who has only a few hours or week-end for traveling. Cases are cited where automobile owners have taken advantage of the Pierce terminals to make pleasure trips of 50 or 125 miles, enjoying a satisfactory repast en route and then returning to their homes pleased with a successful outing in the car.

Contrast this with the usual experience where a motoring party has to risk its digestion and comfort when it takes to the highway, running the gamut of meatless sandwiches and straw tick accommodation wherever it can snatch a bite or a nap.

Not only has the experiment encouraged all classes of car owners to make greater use of their cars, but it has established the theory that the appreciation of motorists would bring trade to those who gave him the accommodation or service he desired.

We are now contributing at the rate of a half billion dollars a year in the taxes on gasoline to extend our good road system. But even after the good roads are provided the public's attitude towards touring will be limited to necessity unless traveling is made more pleasurable by the presence of proper hotel and restaurant accommodation along the way. Even now those who have used their car for a long distance trip are oftener heard to comment on the discomforts of the journey through lack of accommodation for travelers than on the pleasures of bowling along the open road. There, too, the novelty wears off unless there are compensating inducements.

Oil companies might give some practical consideration to the merits of this innovation. It recognizes the possibilities for developing wider use of cars and consequently greater consumption of gasoline, oil and greases, actual new business solidly founded on the good will of the market.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Iodine Numbers of Lubricating Oils

Study of Large Number of Samples Taken After Use in Automobiles Shows Decrease. Explain Testing Procedure

By W. F. Seyer and J. Stanley Allen
University of British Columbia, Vancouver, B. C.*

Lubricating oils are commonly regarded as stable organic compounds consisting of cyclic saturated and unsaturated hydrocarbons. Comparatively high temperatures and great pressures are required to bring about any extensive structural changes in this class of compounds. It is not generally realized that such conditions are pesent in all gas engines when in use. The beaking down of oils under high pressures has been observed and recorded, even when bearings were so well cooled by special devices that no local heating could have taken place. The present investigation was undertaken with these facts in mind and with the object of determining what structural decomposition, if any, occurs in oils when used as lubricants in automobile engines. The fact was not overlooked that a change in the oil as a whole might be brought about by the absorption of unsaturated compounds out of the gasoline, which compounds, through polymerization, might give rise to lubricating products. In any case, the amount of such substances formed must be very small, as it is just these unsaturated compounds that are oxidized most readily and thus removed as gaseous products.

The determination of the iodine number of an oil before and after use affords a ready means of determining the amount of structural change undergone. It has been shown that in order to obtain concordant results for iodine absorption, a prescribed method (7) must be followed exactly. The suggestion has been made (1) that work should be done at lower temperatures than previously, thereby to retard substitution and produce more consistent results. Consequently, all these reactions were allowed to take place at the temperature of melting ice (4). No claim is made that the results indicate unsaturation only, as it is quite possible that some substitution took place even at this temperature. Since differences only were desired, the above method was deemed to be sufficiently accurate for the purpose, and all measurements were reproducible.

Procedure

The procedure was essentially that due to Hubl (3) with important modification suggested by Wijs (9), which is detailed below. The acetic acid used was redistilled with a little potassium permanganate to oxidize any alcohol or acetaldehyde. It was tested for any oxidizable substance by heating with potassium bichromate and concentrated sulphuric acid until, after standing, no green tinge was noticeable. Thirteen grams of pure iodine was dissolved in one liter of glacial acetic acid (99 per cent). Washed and dried chlorine was then passed into the solution until the color changed from dark brown to reddish yellow. It was then allowed to stand 24 hours and kept in the dark. A slight excess of iodine is preferable. It was standardized with sodium thiosulfate (5), which in turn was standardized by Volhard's method. Carbon tetrachloride was used as a solvent, as preferable to chloroform, and this was tested in a similar manner to that of the acetic acid above. A 10 per cent solution of potassium iodide was used, and kept in the dark; also a freshly prepared 1 per cent starch solution. The Pyrex flasks were 250 cc. capacity, with well-ground glass stoppers. These were cleaned before each run with a strong solution of alcoholic soda and dried.

The factors known to influence the iodine number are the weight of oil taken, the excess of iodine present, the temperature, and the time of absorption (7).

A definite amount (0.35 gram) of dried oil was placed in the flask, dissolved in 10 cc. of carbon tetrachloride, and 25 cc. of the iodine monochloride solution added. This volume made the excess of iodine approximately 90 per cent. The flask was then surrounded with melting ice and placed in the dark for exactly two hours. Lewkowitsch recommends one-half hour for the completion of the reaction at room temperatures, which was found equivalent to two hours at 0° Centigrade. After two hours 20 cc. of potassium iodide solution and 100 cc. of water were added. Great precautions were taken to prevent loss of iodine by volatilization, the liquids being allowed to run around the wide lipped neck about the stopper, which was partially removed to allow the solution to enter the flask. The excess iodine was titrated with thiosulfate, using starch indicator at the end. The method was tested with oleic acid, which gave a value of 90.91, while theory predicts 90.07. This agrees very well with that found by Wijs (9) of 87.6 with his own solution, and that of Geitel of 89, using Hubl's solution.

Sampling—The old oil was drained off from the car in which it was to be tested and the crankcase flushed out with a small amount of the desired lubricant. After this had been removed, the car was filled and a sample of the original oil retained for examination. Sufficient oil was also placed in a separate container so that the same oil could be added from time to time to maintain the oil level. After a certain definite mileage, a sample of the lubricant was removed and its iodine number determined. A large number of different cars were used, all of them late models in good mechanical condition. Some were equipped with oil filters and ventilated crankcases.

The diluent was not removed, as there exists at present no method by means of which the heavier ends of gasoline can be completely separated from the lubricating oil. The effect in general is to raise the iodine number of the oil, owing to the large amounts of unsaturated compounds in the gasoline. An idea as to the change brought about by dilution can be gained from the following figures, which were obtained by determining the iodine number of an oil before and after dilution with ordinary gasoline to such an extent that the viscosity of the mixture was equal to that of the oil removed from the car:

Oil	Iodine Number Before Dilution	Iodine Number After Dilution	Increase in Iodine Number
21	17.3	18.6	1.3
57	29.0	30.4	1.4
21	29.2	29.3	1.1

All samples of oil were carefully dried over pure anhydrous calcium chloride for one week, with frequent shaking. To assure the absence of minute particles of calcium chloride, and to separate all dirt and sludge from the oil, each sample was centrifuged before used and the clear oil removed by decantation. No evidence was obtained that the calcium chloride exerted a selective action on the oils.

Results

The results are given in the accompanying table.

The results show that in nearly all cases the iodine number decreases in spite of dilution. Oils 28, 29 and 59 appear to be exceptions. Excessive dilution was noticeable in No. 28, but not in the others. It is also of interest to note that the decrease is greatest during the first

(Continued on Page 141)

IODINE NUMBERS OF LUBRICATING OILS BEFORE AND AFTER USE IN AUTOMOBILE ENGINES

Oil	Type of Oil	Miles Covered With Oil in Car	Initial Iodine Number[a]	Final Iodine Number[a]	Decrease in Iodine Number
1	Medium	500	20.9	20.1	0.7
2	Medium	1,000	...	19.8	1.0
3	Medium	1,500	...	20.1	0.7
4	Heavy	600	44.2	42.8	1.3
5	Medium	700	29.0	28.5	0.4
6	Medium	1,500	40.4	37.8	2.6
7	Medium	600	14.9	14.7	0.2
8	Medium	1,000	...	14.3	0.5
9	Medium	500	30.5	29.7	0.8
10	Medium	500	43.4	42.4	1.0
11	Medium	1,000	...	41.9	1.5
12	Medium	500	28.9	29.6	—0.6
13	Medium	1,000	...	29.1	—0.1
14	Medium	500	41.7	39.5	2.1
15	Medium	1,000	...	38.2	2.5
16	Medium	500	47.3	45.3	2.0
17	Medium	550	45.1	43.1	1.9
18	Medium	1,000	...	41.3	3.8
19	Heavy	500	22.5	22.4	0.1
20	Heavy	1,000	...	23.6	1.1
21	Medium	500	17.3	18.3	—0.9
22	Medium	500	23.5	21.1	2.4
23	Medium	500	16.6	15.4	1.1
24	Medium	500	36.3	35.9	0.4
25	Medium	1,000	...	37.6	1.0
26	Heavy	500	22.7	19.1	2.6
27	Heavy	1,000	...	21.1	1.6
28	Heavy	1,000	22.9	28.8	—5.9
29	Heavy	1,500	39.0	40.5	—1.5
30	Medium	500	29.1	21.7	1.4
31	Medium	1,000	...	17.0	12.1
32	Medium	500	28.9	25.9	2.9
33	Heavy	500	23.9	16.6	7.3
34	Heavy	1,000	...	14.2	9.7
35	Heavy	500	39.3	38.4	0.9
36	Heavy	1,000	...	38.8	0.4
37	Heavy	500	39.0	37.8	1.1
38	Heavy	1,000	...	37.3	1.7
39	Heavy	500	23.4	21.5	1.8
40	Heavy	1,000	...	20.7	2.6
41	Medium	500	18.9	16.7	2.1
42	Medium	1,000	...	19.8	1.0
43	Medium	500	44.2	43.4	0.7
44	Medium	1,000	...	41.7	2.4
45	Medium	800	19.1	17.0	2.0
46	Medium	800	36.9	35.1	1.7
47	Medium	500	18.4	16.2	2.2
48	Medium	1,000	...	15.5	2.9
49	Heavy	600	40.7	39.5	1.2
50	Medium	500	23.1	21.7	1.4
51	Medium	250	22.3	20.4	1.8
52	Medium	800	...	22.0	0.2
53	Medium	600	25.4	24.4	0.9
54	Medium	500	21.3	19.7	1.6
55	Medium	500	21.0	20.0	1.0
56	Medium	900	24.5	23.0	1.5
57	Medium	500	28.9	27.6	1.3
58	Medium	1,000	...	28.4	0.5
59	Medium	500	23.5	25.1	—1.5[b]
60	Medium	500	22.2	22.0	0.1
61	Medium	1,000	...	22.8	—0.6

[a] Averages of two determinations which in no case varied more than 2.5 per cent.
[b] Negative signs mean increase in iodine number.

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(9) Wis, Chem. Rev., 1899, 1.

*Reprinted from Industrial and Engineering Chemistry, official publication of American Chemical Society.

CARBONIZATION PLANT IN GREAT BRITAIN HAS LARGE OIL OUTPUT

A weekly output of 35,000 gallons of coal oil and 4,000 gallons of crude oil is being obtained at the new coalite carbonization plant at Doncaster, England. The plant was erected for the Doncaster Coalite, Ltd., by the Low Temperature Carbonization and is said to be the largest unit of its kind in Great Britain. It is situated at the pithead of the Askern colliery owned by the Askern Coal & Iron Co.

The Petroleum Times in explaining the operation of the plant, states:

"The plant is being erected in two sections; the one just completed is capable of carbonizing 90,000 tons of coal per annum by the coalite process, and the eventual throughput will be double this quantity, which will yield upon treatment 127,000 tons of coalite (smokeless fuel) and over 3,730,000 gallons of motor spirit and other oils.

"The new plant is to run continuously day and night seven days per week. In connection with the plant's production of crude oil, we officially learn that arrangements have been made with Petroleum Refineries, Ltd., which is erecting special cracking plant on the Humber to specialize in the cracking of the crude produced by the coalite carbonization process.

"The process employed in the new plant is the well-known coalite process which has been in successful operation at the works of the parent company, Low Temperature Carbonization, Ltd.,

(Continued on Page 141)

If all gasoline were Dubbs Cracked Gasoline there would be no need of using any chemical dope

Universal Oil Products Co
Chicago, Illinois

Dubbs Cracking Process
Owner and Licensor

Late News from the Field

OKLAHOMA

The Oklahoma City Pool made a new peak last Sunday, August 18, when the 12 producing wells made 39.285 bbls. in 24 hours. This is 3,000 bbls. over the previous record.

The Indian Territory Illuminating Oil Co.'s No. 1 A. Bodine, C NW SE, Section 24-11-3w, a location north of the discovery well, made 2,431 bbls. in 19 hours August 18 and it made 2,340 bbls. August 19, together with 21,000,000 feet of gas at a total depth of 6,536 feet. This well had been shut in as a gas well last April when it gauged 70,000,000 feet of gas at 4,866-77 feet. It is the twelfth well completed in the field.

Mid-Kansas Oil & Gas Co. and others' No. 1 Trosper, NE cor. NW, Section 19-12-1w, Oklahoma County, had a sand at 6,860-74 feet which was dry. Some call it the Wilcox sand. The test is drilling deeper.

Blackwell Oil & Gas Co.'s No. 2 Fleet, SE cor. SW NW, Section 13-5-7, Seminole County, made 1,032 bbls. on the gauge of August 19.

In the Beebe area, Hoffman and others' No. 1 Tecumseh, SE cor. SW, Section 24-5-5, Seminole County, had a show of oil at 2,600-10 feet. It is drilling deeper at 2,635 feet.

Prairie Oil & Gas Co.'s No. 1 Calkins, NW cor. SW, Section 17-9-6, Seminole County, in the extension to the Earlsboro Pool, made 6,480 bbls. on the gauge of August 20. The same company's No. 2 Raitman in Section 18-9-6, produced 2,875 bbls. after a 15-quart shot in the Wilcox sand at 4,215-25 feet. The same company's No. 6 Laster, NE cor. SW NE, Section 19-6-4, Pottawatomie County, in the Asher Pool, swabbed 250 bbls. in seven hours from the Viola lime at 3,635-50 feet.

KANSAS

Shell Petroleum Corp.'s No. 1 B. Lygrisse, C SW, Section 15-26-2, Sedgwick County, north of the townsite of Greenwich, had the chat at 2,902-05 feet, where the hole filled with oil in four hours. The well then was shut in for connections to the tanks and pipe lines. It is estimated to be good for 1,000 bbls.

Davis and Skelly Oil Co.'s No. 12 Wilson, Section 1-26-1w, Valley Center Pool, found the Simpson pay at 3,379-86 feet, where the test is estimated at 100 bbls. It is located on one of the most prolific leases in the pool.

The Shell Petroleum Corp. and Barnsdall Oil Co.'s No. 2 Miller, in Section 17-32-2, in the Miller Pool, made 56 bbls. the first hour, 25 bbls. the second, and 5 bbls. the next hour while being cleaned out. The chat pay was found at 3,345-59 feet. It is the first chat producer in that pool which has wells producing from both the Kansas City lime and Viola lime.

Tom Slick Oil Co.'s No. 1 Thompson in the NW cor., Section 19-32-6w, Harper County, has landed 8-inch casing at 4,606 feet, and expects to drill in the pay horizon in the next few days. The same company's No. 1 Miller in the SE cor., Section 13-34-8w, Harper County, is drilling at 4,565 feet with nothing showing.

GULF COAST

HOUSTON, Tex., Aug. 20.—Union Exploration Co.'s wildcat, No. 3 Esperson, in the C. W. Fisher Survey, western Liberty County, Tuesday noon was flowing at the rate of 1 bbl. of fluid, 10 per cent oil, an hour. The well was being washed and had not cleaned itself and although so far it is not a heavy producer it is promising for that territory. This well is from a sand at a total depth of only 1,834 feet, with one joint of 6⅝-inch screen, and one joint of blank liner set with tubing to the top of the hole. The top of the sand is 1,832 feet with 9¼-inch casing at 1,809 feet. This well is approximately a half mile to the northwest of Harvey Smith's No. 1 Moore's Bluff, which was brought in last Thursday flowing an estimated 500 bbls. of oil and opening production for that area which is believed to overlie another deeply seated salt dome checked by the Union Exploration Co. The latter well today was flowing between 300 and 350 bbls. of oil.

Humble Oil & Refining Co.'s No. 2 Irvin on the Mykawa Dome prospect just south of Houston blew in late Monday making an estimated 35,000,000 feet of dry gas from sand and shale at 4,189 feet. This is the first production of any kind on this prospect and the test is the third drilled.

The purchase by the Yount Lee Oil Co. of Beaumont, Tex., of Harvey Smith's wildcat producer, No. 1 Moore's Bluff Corp., in the C. C. Brunson Survey, western Liberty County, and the 34.8-acre tract on which it is located was completed Monday according to information in Houston. The well, which is the discovery producer of a field in that area, and the tract, are in the middle of a solid block owned by the Union Exploration Co. and Cranfill & Reynolds, overlying what has been checked by the torsion balance as being another salt dome. Terms of the deal provide for $250,000 cash payment with another $250,000 to be paid out in oil. The well, No. 1 Moore's Bluff, which was completed last Thursday, flowing 500 bbls. daily, was flowing an estimated 350 bbls., Tuesday, August 20.

WEST TEXAS

FORT WORTH, Tex., Aug. 20.—Humble Pipe Line Co. is starting a survey for a 6-inch line from McCamey to the Taylor-Link Pool, 18 miles south in Pecos County. Webb's No. 1 Nutt, NE cor. of Subdivision 5, Gonzales County School Land, Irion County, is cleaning out at 1,660 feet, with 500 feet of oil in the hole from pay at 1,359 feet.

SALT CREEK COMPANIES IN NEW ORGANIZATION

NEW YORK, Aug. 19.—Saltmount Oil Corp. has been organized jointly by Salt Creek Producers and Mountain Producers to conduct exploration and development work in other fields and states outside the Salt Creek area in Wyoming. The company, to be incorporated under Delaware laws, will have an authorized capital of 400,000 shares of $25 par value.

John T. Barnett, president of Mountain Producers, is president of the new company.

CALIFORNIA PRODUCTION AND STOCKS IN JULY

LOS ANGELES, Calif., Aug. 19.—California produced 26,796,627 bbls. of crude oil during July. This is an average of 864,407 bbls. daily, and represents an increase of 43,586 bbls. per day over June.

Total fluid stocks increased 3,890,740 bbls. during the month, heavy crude and fuel oil being up 1,784,482 bbls. and light refining crude 1,326,482 bbls.

Gasoline increased 425,107 bbls., while tops declined 101,835 bbls.

All refined stocks, including kerosene, lubricants and refined oils, increased 456,504 bbls.

OSAGE LEASE SALE, SEPT. 20

The Indian Agency at Pawhuska, Okla., announces a sale of Osage Indian leases to be held September 20, 1929, when 20,000 acres of leases will be offered to the public at auction to the highest bidder. The list of leases has not been published but it is expected these leases will be scattered all over the county. It was originally intended to offer 25,000 acres but the amount has been reduced to 20,000 acres.

High Spots in Field News

GULF COAST

Wildcat producer completed by Moore's Bluff Corp. in western Liberty County, Texas, confirms another torsion balance dome prospect. Bought by Yount Lee Oil Co.

South Texas Petroleum Co. brings in 4,500-bbl. producer in old Humble Dome.

Humble's No. 2 Irvin on Mykawa Dome blows in making estimated 35,000,000 feet of dry gas.

ROCKY MOUNTAIN AREA

Shows of oil in several wells in the West Maljamar district of Eddy County, New Mexico, draw attention to that area.

Utah Oil Refining Co. reported preparing to drill a wildcat in the extreme southern part of Utah.

OKLAHOMA

New daily production record of 39,285 bbls. made by the 12 producing wells in Oklahoma City Pool.

Oklahoma City's latest completion, the I.T.I.O.'s No. 1 A. Bodine, made 2,340 bbls. of oil in Monday's gauge, with 21,000,000 feet of gas.

KANSAS

Shell Petroleum Corp.'s No. 1 B. Lygrisse, in Sedgwick County, estimated as good for 1,000 bbls.

In Valley Center Pool Davis and Skelly Oil Co.'s No. 12 Wilson estimated to be good for 100 bbls. in the Simpson.

SOUTHWEST TEXAS

Operators puzzled by peculiar conditions encountered in R. R. Penn's well in Guadalupe County, midway between the Joe Bruner Pool and the new Darst Creek discovery.

CALIFORNIA

Deep-zone exploitation at Santa Fe Springs results in completion of 21 new wells, with consequent continued increase in production.

NORTH LOUISIANA-ARKANSAS

Best well in Pleasant Hill district of Sabine Parish, producing 1,080 bbls. a day, brought in by the Bridges-Clark Oil Co.

EASTERN FIELDS

Gordon Oil Co. gets an 80-bbl. well in the Clinton sand in Hocking County, Ohio.

VALUE OF OIL OUTPUT RISES

OTTAWA, Ontario, Aug. 19.—Output of petroleum products from Canadian plants in 1928 was valued at $83,122,172, increase of $18,500,000 over 1927, according to Dominion Bureau of Statistics. Production from the 16 petroleum refineries was valued at $82,448,392, and output from nine other companies compounding lubricating oils and greases was valued at $673,780. Capital employed in the petroleum refining industry, represented by these 16 companies, was given as $55,811,418. Number of employes averaged 4,252. Gasoline production totaled 344,129,861 imperial gallons including 117,175,542 gallons made by cracking process. To produce the 1928 output of cracked gasoline, 284,500,000 gallons of fuel and gas oil were used. Final sales of fuel and gas oils from the refineries amounted to 309,185,187 gallons in 1928, against 239,272,246 in 1927. In addition, refiners used 52,206,663 gallons as fuel in 1928 and 47,254,487 in 1927.

BATON ROUGE SHIPMENTS

NEW YORK, Aug. 19.—Standard Oil Co. of Louisiana shipped by tanker from its Baton Rouge refinery during July a total of 545,874 barrels of refined oil for the coastwise trade and 729,032 bbls. of refined products for export, against 598,777 bbls. and 1,033,619 bbls., respectively, in the previous month. Included in the export total was 15,635 bbls. of benzol. The company exported 53,208 bbls. of crude during July, no crude being exported during the previous month. Coastwise shipments of crude from Baton Rouge by Standard of Louisiana aggregated 555,684 bbls. in July, against 500,973 bbls. in the previous month.

A.P.I. WEEKLY REFINERY STATISTICS

NEW YORK, Aug. 20.—The weekly report made to the American Petroleum Institute on refinery statistics—crude runs to stills, gasoline stocks and gas and fuel oil stocks—for the week ending August 17 follows:

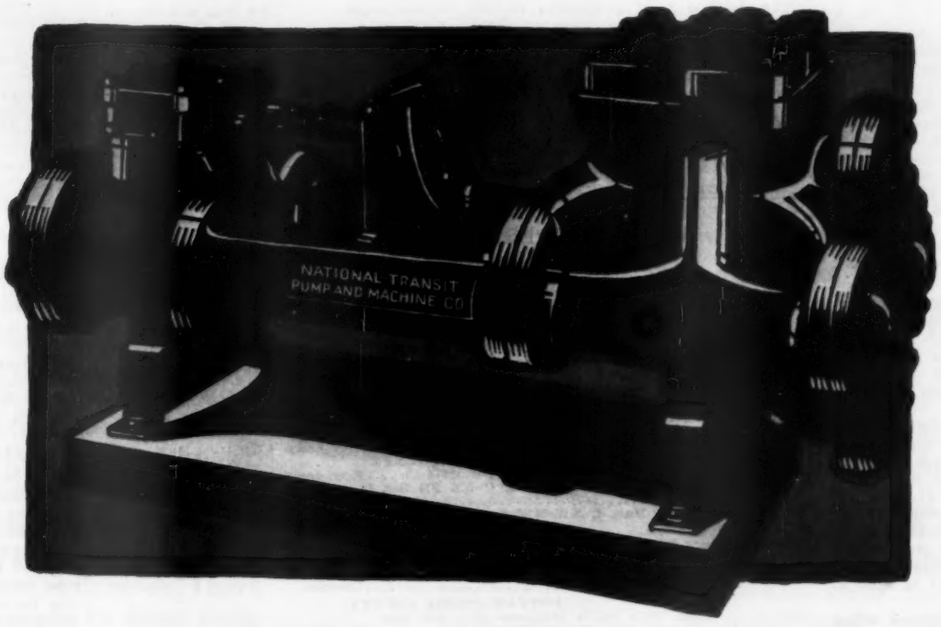
	(1)	(2)	(3)	(4)
East Coast	100.0	3,294,000	4,685,000	7,967,000
Appalachian	84.2	579,800	962,000	992,000
Indiana, Illinois, Kentucky	95.7	2,159,300	5,613,000	3,722,000
Oklahoma, Kansas, Missouri	79.3	1,872,300	2,812,000	4,760,000
Texas	87.0	3,729,300	4,116,000	12,256,000
Louisiana and Arkansas	96.9	1,356,400	1,822,000	5,498,000
Rocky Mountain	93.4	491,900	1,479,000	631,000
California	98.7	5,260,100	11,940,000	106,319,000
Total United States	93.0	18,743,100	33,429,000	142,155,000
Texas Gulf Coast	98.2	2,825,400	3,446,000	9,187,000
Louisiana Gulf Coast	100.0	942,300	1,532,000	4,558,000

(1) Per cent refinery capacity represented. (2) Crude runs to stills. (3) Gasoline stocks. (4) Gas and fuel oil stocks.

TRANSIT

PUMP

This pump has come to be looked upon as a Super Field Pump by some of the largest producing and pipe line companies in the field. Its rugged construction, its larger capacity of 80 to 120 bbls. per hour, and its higher working pressure of 400 to 650 lbs., overcome many of the limitations of the ordinary field pump. Oftentimes it is used to pump producer's oil direct into the main lines.



Agents

FRICK-REID SUPPLY CORPORATION
Tulsa, Okla., or any store.

REPUBLIC SUPPLY COMPANY
of California
Los Angeles, California

E. L. WILSON HARDWARE CO.
Beaumont, Texas.

PUMPS TRANSIT ENGINES

NATIONAL TRANSIT PUMP & MACHINE CO. Oil City, Pa.

DISTRICT OFFICES

NEW YORK CLEVELAND PHILADELPHIA HOUSTON TULSA PITTSBURGH LOS ANGELES

Agents

F. C. RICHMOND MACHINERY CO.
Salt Lake City, Utah.

REEVES & SKINNER MACHINERY CO.
St. Louis, Mo.

One New Well in Oklahoma City Field

Twelve New Tests Started and Field Has Nearly 100 Operations Under Way. Town Lot Boom Threatened in Earlsboro

By W. A. Spinney
Staff Correspondent, Oklahoma Fields

The latest producer in the Oklahoma City Field is the Indian Territory Illuminating Oil Co.'s No. 1 A. Bodine, SW NE SE, Section 24-11-3w, Oklahoma County, which is only a quarter of a mile from the discovery well. It blew in estimated at 3,000 bbls. of oil and 30,000,000 feet of gas, which blew the tools up the hole and caused a fishing job, at a total depth of 6,536 feet. It made 134 bbls. of oil in one hour before being shut in. Another well was drilled in, the Shell Petroleum Corp.'s No. 2 Petty, SW cor. NE, Section 30-11-2w, which started making 60 bbls. a day and increased to 860 bbls. With the completion of these wells the pool now has 12 producers.

Twelve new locations were made in the field last week and the same number of new tests were spudded in. The field now has nearly 100 operations under way and more are expected to be started each week.

Crews are still at work mudding off the gas in the gasoline wells before drilling can be resumed. Both of these tests will be drilled to the oil horizons as soon as possible. The Sinclair Oil & Gas Co.'s No. 1 Kinter, NW cor. SE, Section 30-11-2w, is bottomed at 6,194 feet. Indian Territory Illuminating Oil Co.'s No. 1 Watters, NE NW NE, Section 25-11-3w, has a total depth of 6,249 feet. The latter company's No. 1 Emerson-Joyce, NE cor., Section 25-11-3w, is mudding gas at 6,405 feet.

The Sinclair Oil & Gas Co.'s No. 1 Stamper, NE cor. SW NW. Section 30-11-2w, is the deepest producing well in the field. It has been drilled to a total depth of 6,619 feet and has found increases in production in different horizons while drilling. The latest increase was found at 6,610 feet where it increased about 1,100 bbls. in 24 hours. It has drilled more than 150 feet of pay horizon. The gauge for August 17 was 3,910 bbls., which was the first 24 hours after finding the new pay formation. The well has been drilled only a few feet each week. It is also making about 2,000 bbls. of water.

The average daily production of the Oklahoma City Pool during the last week has been 34,675 bbls. of oil. This is an increase over the last week's gauges and shows a steady increase in production which may be expected from this field for the next six months.

During the week several drilling wells found showings of oil in the upper formations. The Mid-Kansas Oil & Gas Co.'s No. 3 Fortson, NW cor. NE, Section 24-11-3w, had a showing of oil at 5,000 feet in sandy lime. The Coline Oil Co.'s No. 2 Olds, C NE NW, Section 24-11-3w, a quarter of a mile north of No. 1 Olds, which is still the largest producer in the field. cored a showing of oil in sand at 6,203 feet.

The wildcat tests in this area which are being watched with a lot of interest are getting to important depths. Some of them are deeper than the pay horizons are found in the producing part of the field. The Magnolia Petroleum Co.'s No. 1 Noble, NW cor. SW SW, Section 30-12-2w, Oklahoma County, is fishing at 6,337 feet. Mid-Kansas Oil & Gas Co. and others' No. 1 Trosper, NE cor. NW, Section 19-12-1w, Oklahoma County, is drilling in lime at 6,820 feet. Prairie Oil & Gas Co. and others' No. 1 Sudik, C NE NE, Section 8-10-2w, Cleveland County, is drilling at 7,035 feet, with 6,500 feet of water in the hole. Tom Slick Oil Co.'s No. 1 Martin, NW cor., Section 13-13-1w, Oklahoma County, is drilling at 4,150 feet. The Coline Oil Co.'s No. 1 Olds, C SE NW, Section 24-11-3w, which found the pay horizon at 6,311 feet, has been drilled deeper and it has increased its production about 1,000 bbls. the big increase coming at 6,316 feet while the total depth is 6,320 feet. The first 24 hours after deepening it made 4,998 bbls.

Four Wells Showing Water

Four of the producing wells in the main part of the field are making water which seems to be increasing, but apparently having little if any effect on the oil production. The wells making water are the Sinclair Oil & Gas Co.'s No. 1 Stamper, in Section 30-11-2w, 2,000 bbls. a day; Indian Territory Illuminating Oil Co.'s No. 1 fee, in Section 24-11-3w, the discovery, 850 bbls. a day; same company's No. 1 Henning, in Section 24-11-3w, 700 bbls. a day. The same company's No. 1 S. Bodine, 30-11-2w, has been making about 825 bbls. of water per day but it increased to 2,300 bbls. late in the week.

The production of the field for August 19 was as follows:

Company—	Bbls.
Coline, No. 1 Olds	4,754
I. T. I. O., No. 1 Button	4,604
I. T. I. O., No. 1 Henning	2,545
I. T. I. O., No. 1 Johnson	4,992
I. T. I. O., No. 1 fee	1,420
I. T. I. O., No. 1 S. Bodine	1,231
I. T. I. O., No. 1 A. Bodine	3,340
Mid-Kansas, No. 1 Fortson	3,706
Mid-Kansas, No. 2 Fortson	3,379
Prairie, No. 1 Hiddleston	4,020
Shell, No. 1 Petty	1,067
Sinclair, No. 1 Stamper	4,640
Total	38,689

The daily average production of the Seminole Pool for the last week was 300,095 bbls., which is an increase of 1,120 bbls. over the previous week. The production is from 1,630 wells. The number of producing wells has increased.

Important wells completed the last week in the extension to the Little River Pool are the Continental Oil Co. and Shaffer Oil & Refining Co.'s No. 3 Harrison, NW cor. SW, Section 4-7-7, which had the top of the Wilcox sand at 4,160-69 feet, where it made 1,240 bbls. It is much smaller than the average initial production of the wells in that area, but it extends the oil-producing territory to the northeast. On the west side of the pool the Prairie Oil & Gas Co.'s No. 2 Thomas, in the SE cor. NW, Section 5-7-7, Seminole County, made 1,000 bbls. from the Wilcox sand at 4,211-24 feet. In the Maud Pool, the average well completed in that pool has been small. The Shell Petroleum Corp.'s No. 1 Jordan, in the SW cor. NW, Section 9-8-5, made 1,286 bbls., which makes it the largest well completed in the pool in several months. It is producing from the Misener sand found at 4,012-24 feet and drilled into the Hunton lime to 4,050 feet where the gas was increasing from the lime. The Earlsboro Pool is being extended by the development in Section 8-9-5, which is also a townsite development.

Earlsboro Townsite Boom

The townsite of Earlsboro is offset by several producing wells, on the north. The townsite promises to have one of the biggest booms in Oklahoma. Phillips Petroleum Co. has completed a 1,477-bbl. well offsetting Block 5, Earlsboro townsite. There are 53 blocks in the town, none of which has been condemned. The north end of the townsite seems to be the center of the play. Lease offers are being made for every block in the town, for drilling purposes. This includes the block with a new hotel which is estimated to have cost $250,000. The Phillips Petroleum Co.'s No. 1 Reade, in the SE cor. NW NW, Section 8-9-5, had the Wilcox sand at 4,371-95 feet, and flowed 1,477 bbls. It is the well that started most of the boom.

Sunray Oil Co. and Sheldon Oil Co.'s No. 1 Holmes, in the NW cor. SW, Section 22-12-11, Okfuskee County, made 195 bbls. the first 24 hours, from the Lyons-Quinn sand at 2,720-25 feet. The test was started for the Wilcox sand.

The Gypsy Oil Co.'s No. 1 Gibson, in the NW cor. NE, Section 17-29-4w, Grant County, had a small showing of oil in the Simpson lime at 4,847-55 feet. It filled up 1,000 feet with oil. The test found the Wilcox sand at 4,867-68 feet, with a hole full of water. It is the south offset to the discovery well of the same company in Sumner County, Kansas, the No. 1 Williams, in the SW cor. NE SW, Section 16-35-3w. It made 615 bbls. August 16. The company will land a string of casing on bottom and drill the test deeper.

Leasing activity in the northwestern counties is active and a large number of blocks have been leased and checkerboarding of leases around these blocks is under way. The Amerada Petroleum Corp. is blocking leases in Township 24-4w, Garfield County, and a wildcat test is expected to be started on this block in the near future. A new community test has been announced in Section 28-22-1w, Noble County. It will be a Wilcox sand test and is to be drilled by the Prairie Oil & Gas Co., Sinclair Oil & Gas Co., Atlantic Oil Producing Co., Gypsy Oil Co., and Wentz Oil Corp. Karier & Murphy have taken a block of leases in Township 25-19w, Woodward County, and a wildcat test is expected to be started on this acreage. The deepest test in this part of the State is the Gypsy Oil Co. and Prairie Oil & Gas Co. and others' No. 1 Thompson, SE cor. SW, Section 10-25-15w, Woods County, which was drilling at 5,760 feet, on August 17.

Leasing in Lincoln

Lincoln County has been getting a lease play that has spread to all parts of that county, on account of the Magnolia Petroleum Co.'s No. 1 Decker, in the SE cor. SW SE, Section 8-14-4, which had an initial production of 100 bbls. an hour from the Simpson lime at 4,953-72 feet. It gauged 510 bbls. on August 17.

Lease trading in the Seminole area has been quiet and is almost at a standstill. About the only activity along these lines are a few community deals where short-term leases are pooled and a test drilled. Three community tests are expected to be started in the near future. The Superior Oil Co.'s No. 1 will be drilled in the SW cor. NW, Section 3-8-4, Pottawatomie County. The Atlantic Oil Producing Co. and Tidal Oil Co. will have an interest in a test to be drilled as a community well in the NW cor., Section 21-7-4, Pottawatomie County, on acreage owned by the Atlantic Oil Producing Co. The test will probably be drilled by the Independent Oil & Gas Co. The third community test well is expected to be drilled in the SW cor., Section 26-8-4, on acreage owned by the Phillips Petroleum Co.

St. Louis' Slight Increase

St. Louis Pool shows a slight increase this week mostly due to the large Hunton lime well completed by the Gypsy Oil Co. in Section 17-7-4, Pottawatomie County. The well is expected to decline rapidly as most wells that find their production in this horizon do in this pool. The well will probably be deepened to the Simpson and Wilcox horizons. The Asher Pool is showing a small decline. No wells have been completed in that pool for several weeks and until some reach the pay horizon it is expected to keep on declining. The north Sasakwa Pool has dropped about 500 bbls. on the daily average gauge of this week which brings the total production of the pool below 7,000 bbls. for the first time in several weeks. Until additional wells have been completed the decline is expected to continue. The Signal Oil Co.'s No. 1 Bond is still pinched in and is making 110 bbls. flowing through a five-sixteenths-inch choke on August

(Continued on Page 76)

WILDCAT OPERATIONS IN OKLAHOMA

(Descriptions are East and North unless marked otherwise)

OKFUSKEE COUNTY

Henry Oil Co.'s No. 1 Smith, NW cor. Sec. 35-12-9 .....Location.
Shepard et al's No. 1 Neveas, SE NW SW Sec. 2-12-10 ...Rig.
Superior and others' No. 1 Carolina, SE cor. Sec. 6-11-7e .....Drlg. 2,400 ft.

OKLAHOMA COUNTY

Ryan & Martin's No. 1 Lawton, NE NW Sec. 3-11-2w ..Rig.
Tom Slick Oil Co.'s No. 1 Martin, C NW NW Sec. 13-13-1w .....Drlg. 2,350 ft.
Mid-Kansas' No. 1 Trosper, NE NW Sec. 19-12-1w .....Drlg. 6,415 ft.
Hall & Briscoe's No. 1 Holmes, NE cor. SW SE Sec. 10-11-3w .....Shut down 4,750 ft.

PITTSBURG COUNTY

Galbreath's No. 1 Snyder, C W half SW Sec. 28-4-13 ....Shut down 100 ft.
Empire O. & R. Co.'s No. 1 Williams, C NE SE Sec. 33-7-16e .....Location.
Kerr & Koy's No. 1 Hall, C NW NW Sec. 32-4-12 .....Underreaming 8-in. csg. 2,406 ft.

POTTOTOC COUNTY

Indian Territory Illuminating Oil Co.'s No. 1 McFarland, NW cor. Sec. 4-5-5 .....Location.
Indian Territory Illuminating Oil Co.'s No. 1 Shoate, C NE SE Sec. 1-4-4 .....Location.

POTTAWATOMIE COUNTY

Empire O. & R. Co.'s No. 1 McKown, SW NW Sec. 25-8-4 .....Location.
Keister & Manning's No. 1 Tibbs, NE SW Sec. 9-8-4 ....Spudding.
Amerada's No. 1 Vineyard, NW NE NE Sec. 15-7-3 .....Drlg. 3,642 ft.
Gypsy Oil Co.'s No. 1 Randosh, NW NE Sec. 23-6-4 .....Drlg. 3,763 ft.
Frank Moore's No. 1 Fundis, SE NE Sec. 19-7-3 .....Location.
Phillips Pet. Co.'s No. 1 King, NW cor. Sec. 26-8-4 .....Drlg. 3,869 ft.
Sinclair and Mid-Continent's No. 1 Cumings, SE NE SE Sec. 6-7-5 .....Drlg. 4,390 ft.
Shaffer and Margay's No. 1 Murphy, NW NE Sec. 11-6-3 .....Fishing 3,940 ft.
Cal-Cul Oil Co.'s No. 1 McKnight, NW cor. NE NW Sec. 9-8-3 .....Drlg. 3,542 ft.

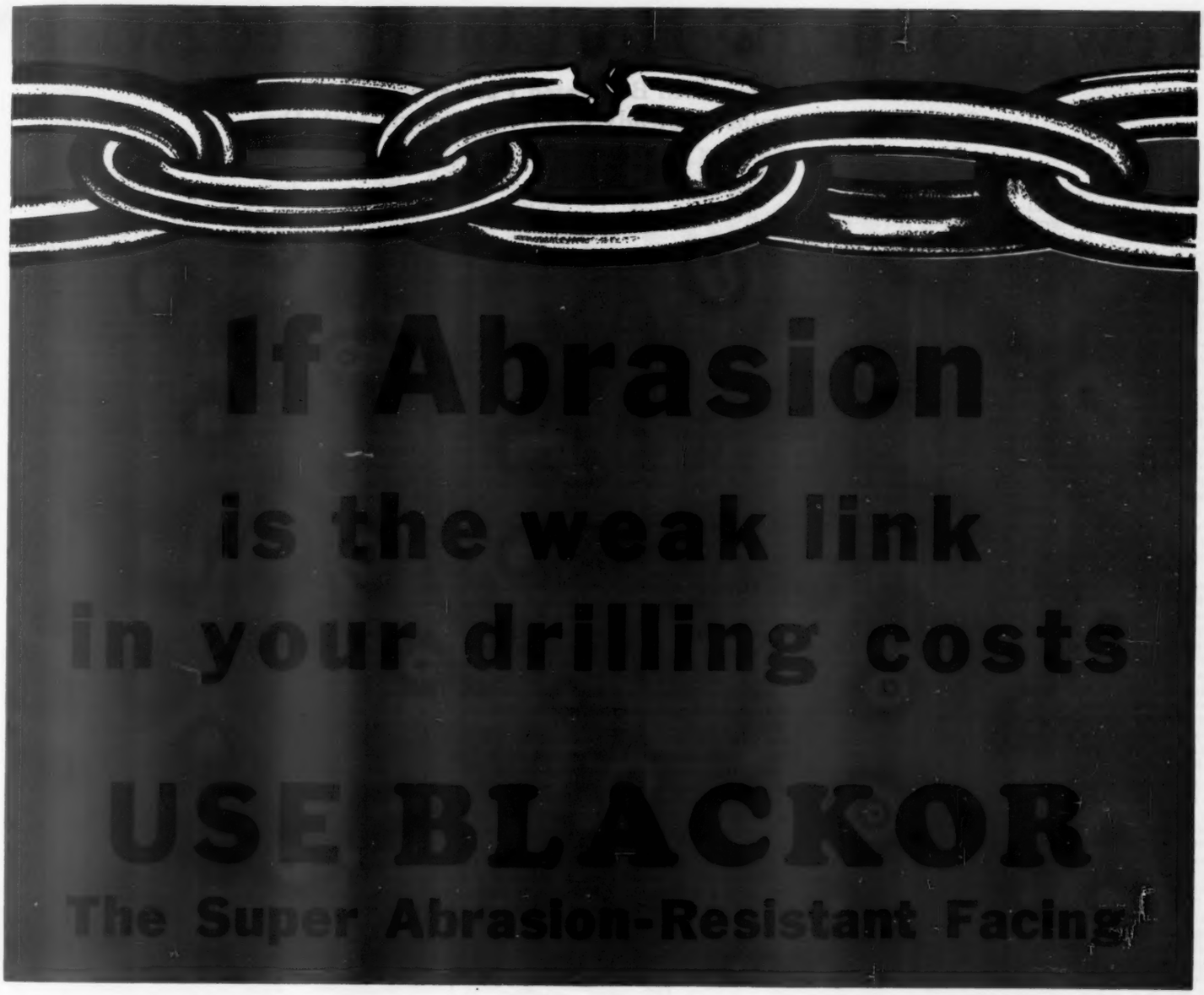
ROGER MILLS COUNTY

Bucy & Stone's No. 1 William, C SW Sec. 33-12-24w ....Location.
L. C. Hivick's No. 1 Davis, C NW NE Sec. 4-11-26w ....Shut down 1,300 ft.

SEMINOLE COUNTY

McCullough Oil Co.'s No. 1 Luckett, NE NW Sec. 28-10-5..Drlg. 2,250 ft.
Prairie & Slick's No. 1 Harjo, NW SW Sec. 36-6-6 .....Rig.
Harris' No. 1 Harjocke, SE NE SE Sec. 8-6-6 .....Spudding.
Prairie's No. 1 Mingo, NW NE Sec. 25-6-6 .....Drlg. 3,010 ft.

(Continued on Page 163)



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New Producing Horizon in Sedgwick

The Kansas City Lime Will Be Tested Further in That Area. Production Maintains at Steady Figure. Important Tests Due

By W. A. Spinney
Staff Correspondent, Kansas Fields

The production of oil in Kansas averaged 126,950 bbls. per day last week, which was a small decrease from the previous week. During the last six months oil production has steadily increased each week and many predict that before the end of the year all production records for the State will be surpassed and a new high will be established. The drilling of new wells is on the increase and wildcat tests are finding oil in widely scattered counties.

The first reports in Kansas this week show a slight decline. Fewer new tests were started, a total of 27 having been reported for the week. They are divided as follows, Sedgwick County, two; Greenwood County, five; Butler and Cowley, four each; Sumner and Elk, two each; Ellis, Barton, Woodson, McPherson, Reno, Rice and Trego Counties, one each.

A new producing horizon has been found in the Miller Pool in Township 32-2, Sumner County. The Shell Petroleum Corp. and Barnsdall Oil Co.'s No. 2 Miller, SW SE SW, Section 17-32-2, had the top of the chat at 3,332-59 feet, where the hole filled up 2,000 feet in four hours. The well will be given a swabbing test after the 5-inch casing has been landed. The well is two locations south of the producing wells in the pool, and no other well is producing from this same horizon in this vicinity. The discovery well drilled by the Shell Petroleum Corp. and Barnsdall Oil Co., the No. 1 Miller, came in making 700 bbls. from the Viola lime at a total depth of 3,660 feet.

Operations are getting under way for a new wildcat test on a 12,000-acre block in Ford County. The acreage has been assembled by O. M. Swain, and is located in Township 26-24w, north of the town of Wright. Drilling on this test is expected to be started in the near future. Location has not been staked.

Tom Slick Oil Co. is moving in a rig for a test northwest of Wellington in Sumner County. The location will be in the NW cor., Section 33-31-1w. The company has 800 acres under lease in the block which has also been core drilled. It will be a Wilcox sand test. The sand is expected to be found at 4,400 feet. The well will be drilled with standard tools to test out the shallow gas sands which have been found in other wells in the vicinity.

Several Tests Due

Several drilling wells in the southern part of Sedgwick County are due to reach the pay horizons some time this week. Sullivan & Melrose and others' No. 1 Morford, in Section 29-28-1, found a hole full of water in the chat at 3,135-40 feet. It has landed casing and is starting to drill ahead. The Old Trail Oil Co.'s No. 1 Schweiter, on the southeast of Wichita, is shut down on what is supposed to be the top of the chat at 3,004 feet. Drilling will be resumed when titles are cleared. Milmac Oil Co.'s No. 1 Stuckey, in Section 22-28-1, is drilling at 2,900 feet and is expected to be in the chat formation this week. Derby Oil Co.'s No. 1 Blood, in Section 28-28-1, which will be an extension to the Robbins Pool, is drilling at 2,950 feet, and is expected to reach the chat in a few days. It is found around 3,100 feet. The Lario Oil & Gas Co.'s No. 1 Teachoff, NE cor. SW, Section 27-29-1w, Sedgwick County, is drilling at 2,870 feet.

Pipe Line Completed

The pipe line to the new wildcat well in Rice County has been completed and the first shipment of oil was scheduled for Friday, August 16. The well is producing 51 gravity oil, which is said to be the highest gravity crude oil ever found in the State. An interest in the well and 2,000 acres of leases were recently purchased by Tom Slick Oil Co. from Hilligross & Steinbuchel. The well is rated at 100 bbls. a day from an unidentified horizon at 3,278-82 feet. It has been shut down waiting on pipe line connections.

A 14,000-Acre Block

The Derby Oil Co. has completed a block of 14,000 acres in Township 22, 16w, Pawnee County, near the Arkansas River. A test will be started on this wildcat acreage within a short time. Several other major companies have taken blocks in this county which is in line for an active wildcat development.

In Sedgwick County

The operators in the Valley Center Pool in Sedgwick County may redrill their leases for the Kansas City lime production. Aladdin Petroleum Corp. has drilled a twin well to its No. 2 Bennington, CSL NW SW Section 6-26-1. This section appears to have the best prospect for production in the Kansas City lime, the majority of the tests drilled in that section having had good showings of oil in that horizon, but all the wells have continued through the formation and are producing from the Simpson. The Aladdin Petroleum Corp.'s No. 2 Bennington had the top of the Kansas City lime at 2,594 feet, where the hole quickly filled up 500 feet. It will be drilled deeper in the pay horizon as soon as the big pipe can be pulled. If this test should develop into a steady producer it is the opinion of the majority of operators in that area that another drilling campaign will be the result. The history of the Kansas City lime tests has not been altogether favorable in the past. The only Kansas City lime producer in the pool at present is the Phillips Petroleum Co.'s No. 1 Difford, in Section 1-26-1w, Sedgwick County. The Connell Oil Co. and others have a producer in that formation in the NE cor. Section 27-25-1w, Sedgwick County, which is averaging 10 bbls. a day. It is northwest of the main part of the pool.

In Greenwood County

The south end of the Seeley Pool in Greenwood County is still getting some good sized oil wells. On this narrow trend of oil two large sized producers were completed last week. The Phillips Petroleum Co.'s No. 1 Beal, NE NW NE Section 28-23-11, swabbed 402 bbls. from the Bartlesville sand at 1,874-1,965 feet after a shot. The other new well is owned by the Empire Oil & Refining Co. and is its No. 3 B. Edwards, SW cor. SE Section 21-23-11. After it had been given a shot and cleaned out it made 355 bbls. on the swab in 12 hours from Bartlesville sand at 1,861-1,945 feet. The Texas Company is building a rig for its No. 8 C. Edwards, in the SW cor. SE Section 21-23-11.

Cowley and Sumner Counties

In the Oxford district, Sumner County, production totaled 12 620 bbls. on August 15, which is divided as follows: Churchill Pool, 5,910 bbls.; Oxford townsite and southwest extension, 4 370 bbls.; Rainbow Bend Pool, 1,565 bbls. Crason Waite Pool, 650 bbls.; Miller Pool, 125 bbls. In the Churchill Pool, the Washoma Petroleum Co. is building a rig for its No. 3 B Bussard, in the CEL SE SE Section 36-31-2, Sumner County. Shell Petroleum Corp.'s No. 1 Armstrong, in the NE cor. Section 12-32-2, is a rig on the ground. Same company's No. 1 Miller, SW cor. SE Section 17-32-2, Sumner County, is drilling at 2,250 feet. Sumner County is also getting a new wildcat test. It will be drilled by Lario Oil & Gas Co., Sinclair Oil & Gas Co. and Independent Oil & Gas Co., and is No. 1 Osborne, in the NE cor. SE Section 20-30-1w. in the northern part of the county. The location is on a block of leases that has been core drilled and cover the entire section, or 640 acres.

Butler County has another wildcat test. It is being drilled by Morgan, Morris & Liggett's No. 1 Hanson, SE cor. NW Section 8-27-6. The location is on a block of 800 acres and will be drilled to the Bartlesville sand. It will test the deeper sands if the Bartlesville does not produce.

Three new locations have been announced in Cowley County in different districts. McKnab-Bess Oil Co. and others' No. 1 Zeien, in the NE cor. NW NE Section 19-32-5, will be spudded in next week. Another test will be drilled by Roth and Farout, No. 1 Thomas, in the W half of NE of Section 34-32-4, which is on the edge of the city of Winfield, and only one-half mile from some shallow gas wells drilled several years ago. The third location has been made by Watson & Reynolds, No. 1 Watts, NE cor. NW Section 15-32-4, which is expected to be started some time this week.

Sedgwick County Production

The production by companies and leases in the Sedgwick County area for August 16, is shown by the following:

County, lease—	S.T.R.	Wells	Bbls.
Aladdin:			
Bennington	6-26-1	2	391
Barnsdall:			
Rapp	26-26-2	1	83
Samuel	24-25-1	1	Off
Bu-Vi-Bar:			
Branch	6-26-1	2	641
Bright "A"	6-26-1	2	212
Bright "B"	6-26-1	5	1,805
Byers	7-26-1	1	134
Emrich	6-26-1	2	675
T. Goodrich	6-26-1	5	416
Lantz	12-26-1w	2	14
Corr	1-26-1w	8	4,007
Lyons	7-26-1e	3	1,177
Miles	7-26-1	1	75
Reed	1-26-1w	3	2,376
Roll	7-26-1e	1	387
Rothfuss	6-26-1e	1	4
Shawver	7-26-1e	8	5,238
Wright	12-26-1w	5	3,185
Woodward	7-26-1e	1	278
Connell:			
Cross	27-25-1w	1	10
Continental:			
Goodrich	16-25-1e	2	942
No. 1 Black	16-25-1	1	84
Davis-Skelly:			
Wilson	1-26-1w	11	3,330
T. M. Deal:			
No. 1 Townsite	15-26-1	1	634
Derby et al:			
Bowling	6-26-1e	1	80
Gorman	6-26-1e	4	688
Hladick	15-26-1	1	361
Dickey et al:			
Robbins	21-28-1e	1	224
Dickey:			
Nolan	21-28-1	1	145
Gypsy:			
Hammant	14-26-2e	3	543
W. F. Kinney:			
1 Richards	15-26-2e	1	372
Mars Oil Co.:			
Miller	2-26-2	1	94
Mary Jane:			
F'tch	6-26-1e	2	507
Montour:			
Lavender	6-26-1e	2	1,039
Paxton & Wentz:			
Swenson	6-26-1	1	97
Phillips Pet. Co.:			
Difford	1-26-1w	3	146
Piefer	6-26-1e	1	105
Plains Oil Co.:			
No. 1 Corn	15-26-1	1	378
Prairie:			
Cross	27-25-1w	1	10
Swyser	36-25-1w	3	315
Producers & Refiners:			
Kuske	24-25-1	1	157
Pyle & Sutter:			
Caldwell	6-26-1e	2	315
Ramsey:			
Mason	15-26-1	1	266
Reynolds & Hays:			
Rolls	7-26-1	1	645
Robertson et al:			
Creson	6-26-1	1	734
Shell:			
Fisher	15-26-2	1	191
Lygrisse	15-26-1	1	106
Community	15-26-2	3	1,756
Nolan	21-28-1e	1	74
Stearns & Streeter:			
Roll	7-26-1	1	597
Texas:			
Blood	21-28-1	1	182
Tidal:			
Scherger	6-26-1	2	150
Vickers:			
Nessen	6-26-1	3	189
Wentz:			
No. 1 Bright	1-26-1w	1	179
White Eagle:			
Baylor	6-26-1	1	10
Robbins	20-28-1	1	90
Total		119	36,843

The Greenwich Pool in Sedgwick County produced 5,710 bbls. on the gauge of August 17. Shell Petroleum Corp.'s No. 3 Community, in Section 15-26-2, is producing from the chat at 2,926-29 feet.

(Continued on Page 131)

WILDCAT OPERATIONS IN KANSAS

(Descriptions are East unless otherwise marked)

Company, farm and location—	Remarks:
BARBER COUNTY	
Rolland & Skelly Oil Co.'s No. 1 Pickens, C NE NW NE Sec. 27-30-14w	Shut down 4,734 ft.; show oil.
Skelly Oil Co.'s No. 1 Temple Ranch, Sec. 13-34-15w	Drlg. 2,790 ft.
Barbara Oil Co.'s No. 1 Angel, NW cor. NE Sec. 14-33-13w	Drlg. 4,637 ft.
Robertson et al's No. 1 Powell, SE cor. SE Sec. 11-32-10w	Drlg. 2,100 ft.
Allison & Fitzwilliams' No. 1 Morrisse, C NW SE SE Sec. 9-30-12w	Drlg. 3,910 ft.
BARTON COUNTY	
Slick et al's No. 1 Sweeney, SW NE Sec. 23-17-11w	Rig on ground.
Everett & Wiley's No. 1 Ward, NW cor. SW Sec. 12-20-13w	Shut down 3,948 ft.
BUTLER COUNTY	
Travis et al's No. 1 Harrison, SE cor. Sec. 21-25-3	Drlg. 1,075 ft.
Milmac Oil Co.'s No. 1 Clearwater, SW cor. Sec. 33-25-3	Spudding.
Lario Oil & Gas' No. 1 Gordon, NW cor. Sec. 15-26-3	Drlg. 1,740 ft.
Sinclair Oil & Gas' No. 1 Johnson, NE cor. Sec. 16-26-3	Fishing 1,235 ft.
Empire O. & R. Co.'s No. 1 Parks, NE NW Sec. 26-29-4	Drlg. 2,365 ft.
Arkansas Fuel Oil Co.'s No. 1 Campbell, SE cor. Sec. 9-26-3	Fishing 1,242 ft.
White Eagle's No. 1 Bachelder, SW cor. Sec. 17-25-3e	6-in. csg. 2,775 ft.
Crawford et al's No. 1 Thompson, NW cor. SW Sec. 2-24-3e	Drlg. 2,530-34 ft.; 1,800 ft. oil in hole, testing.
Aladdin Petroleum Co.'s No. 1 Bronsenger, NE cor. NE SW Sec. 24-27-3	Viola 3,012-22 ft.; 145 bbls., completed.
CLAY COUNTY	
Derby Oil Co.'s No. 1 Meimueller C NW SW Sec. 9-10-3e	Rig.
COWLEY COUNTY	
Landon & Slick's No. 1 Daniels, NE SE Sec. 6-30-5e	Drlg. 2,630 ft.
J. B. Markley's No. 1 Tatum, SE cor. SW Sec. 11-31-6	Shut down 600 ft.
DICKINSON COUNTY	
Cress & Hawky's No. 1 Menli, NE cor. Sec. 12-15-3	Rig.
Prairie Oil & Gas Co.'s No. 1 Morgan, NW cor. Sec. 26-16-3e	Drlg. 2,820 ft.
Milmac's No. 1 Biehler, SW NE Sec. 28-16-4e	Underreaming 6-in. csg. 2,716 ft.

(Continued on Page 164)

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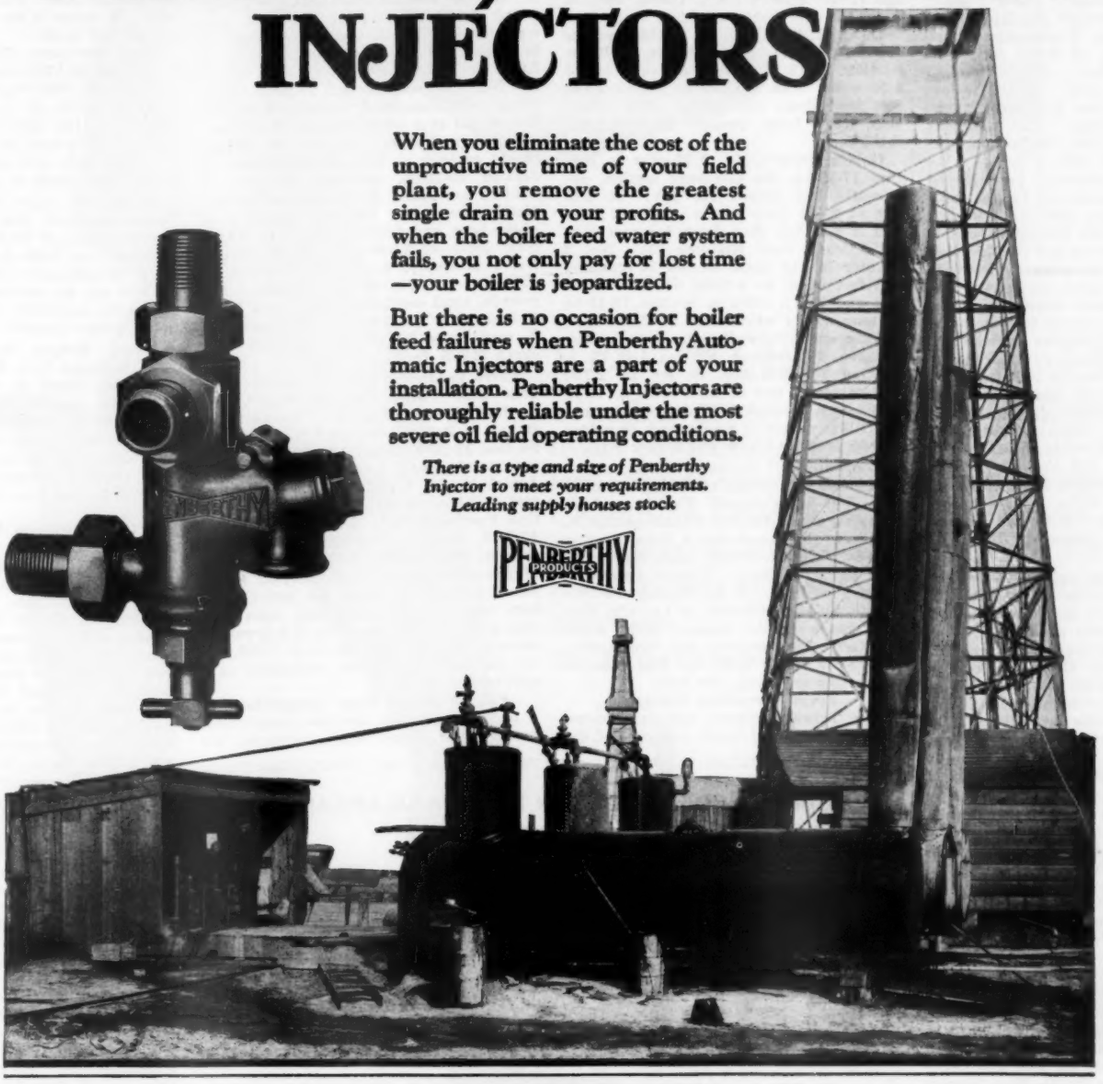

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Pleasant Hill Has Another Producer

Best Well in That District and Its First Successful Completion in More Than a Year Is Brought in by Bridges-Clark Co.

By D. H. Bancroft
Staff Correspondent, Louisiana-Arkansas

SHREVEPORT, La., Aug. 19.—The best well in the Pleasant Hill district of Sabine Parish and the first successful completion in that area in more than a year was brought in August 10 by the Bridges-Clark Oil Co. on its Williams lease in NE SW Section 33-12-10 with an initial 2,000 bbls. through one 2-inch and one 3-inch flow lines from a total depth of 3,215 feet with sand from 3,190 feet. The oil is 42 gravity corrected, and the first few hours' production was lost on account of insufficient tankage. The well has settled down to 45 bbls. an hour on the last gauge, or 1,080 bbls. a day.

Since the last preceding producer in the pool was completed only two or three other wells, wildcats and semiwildcats, had been drilled in the Pleasant Hill district. All were failures and the fact that this well is in the discovery section with production on all sides and was completed at normal depth would have made it of little moment except for its initial production and the manner in which it has held up. Its initial was much larger than usual for Pleasant Hill wells and the decline from flush has been slower than was the rule while development of the pool was at its height two years ago. Locations have been made for three offsets, Bridges-Clark Oil Co. No. 2 Williams in SW NE Section 33-10-12; Magnolia Petroleum Co.'s No. 1 Hall in NW SW, same section, and Arkansas Natural Gas Corp. No. 1 Horne in NE SW, same section.

R. L. Gay, trustee, has made location for the first of a series of 20 wells, 18 shallow holes and two deep tests, planned for a block of 10,000 acres at Loring, 12 miles east of his two Zwolle district producers. No. 1-A Bowman-Hicks in NE SE Section 34-8-12 will be a shallow test. His two Zwolle wells continue slowly to increase their production, gaining about 10 bbls. each during the last week.

Fails to Fulfill Expectations

Contrary to expectations prompted by a weeping core from 4,612-19 feet, Standard Oil Co.'s No. 22-B Bodcaw in NE SE Section 28-21-10 Cotton Valley district of Webster Parish, did not make an oil producer but gauged 49,464,000 feet of gas at 1,460 pounds, total depth 4,631 feet. Standard Oil Co. has taken the Tidal Oil Co.'s "40," the SE NE of Section 28 for another deep test. Palmer Corp. bought the gas rights on Woodley Petroleum Co.'s acreage in Cotton Valley for $25,000 cash and three-quarters cent per thousand feet royalty on the deep gas. The corporation also bought the gas rights on Triangle Drilling Co.'s 3,300 acres in the Sligo district of Bossier Parish just north of Elm Grove production. It already had 1,600 acres and the Triangle properties with a few smaller pieces give it a total of approximately 5,000 acres in that area.

Two important tests in the Dixie district of Caddo Parish are due the coming week, Ray-Dawes Drilling Co.'s No. 2 Hunter in Section 9-19-14 about a mile north of production, will drill 6⅝-inch plug Monday. The well made a show of oil and gas at 2,423 feet from 11 feet of sand and casing was cemented at 2,384 feet. Haynes Brothers set 6⅝-inch at 2,382 feet, total depth 2,390 feet, in No. 1 Oden, Section 19-19-14, west of production, and will probably test late in the coming week. The pool's production to date totals 83,878 bbls., in about three months time. Standard Oil Co.'s six wells have produced 18,931 bbls., Gulf Refining Co.'s four 54,804 bbls., Palmer Corp.'s two 860 bbls., Ohio Oil Co.'s two 2,981 bbls., and Gold & Sklar's one producer 6,302 bbls.

Other Caddo Completions

Elsewhere in Caddo there were two completions in the week, Dixie Oil Co.'s No. 100 Dillon, Section 13-21-15, Pine Island, pumping 35 bbls. from 1,742 feet, and C. B. Moore's No. 5 Dillon, Section 22-20-15, salt water at 2,286 feet.

D. C. R. Oil Co.'s No. 2 Oden across the "40" from its extension well in Section 20-19-14, Dixie district, tested salt water with a show of oil at 2,445 feet shut down for orders. The extension, No. 1 Oden, pumped 20 bbls. from 2,423 feet.

Gold & Sklar's No. 2 Hunter in Section 17-19-14, the discovery section, apparently has missed the pay. It was dry at 2,421 feet, where it should have had it and has shut down for orders at 2,450 feet. Gulf Refining Co.'s No. 2 Hunter in the same section is standing 300 feet in oil at a total depth of 2,408 feet and No. 5 Oden in Section 18-19-14 is temporarily abandoned at 2,454 feet.

Fair and others' DeSoto Parish wildcat, No. 1 Hamilton, Section 1-12-13, is waiting for 6⅝-inch to set at 2,770 feet to test 3 feet of sand from 2,776-79 feet which showed 1,000,000 feet of gas on drill stem test of a new sand, or rather an old sand at a new and higher level.

Louisiana Oil Refining Corp. has assembled 5,600 acres centering on Section 5-11-3e, Caldwell Parish, and is planning a test for the Urania sand. V. E. Shaw abandoned No. 1 Voss, Section 1-20-3w, Lincoln Parish, as a salt water hole at 2,774 feet. Tunica Petroleum Co.'s No. 48 L & A, Section 16-7-2e, White Sulphur district of LaSalle Parish, was a 20-bbl. pumper total depth 808 feet. The company has completed a half-dozen small wells in this area of which this one ranks the best.

Texas Surrenders Acreage

The Texas Company has surrendered the acreage it had north and east of the Myers well in Section 15-22-7, Morehouse Parish, which raised great hopes of production a year ago when it developed an oil show at around 2,930-39 feet, and is figuring on interesting other lease owners in a community test a few miles southwest of the Myers, in the SE cor. Section 20-22-7 or SW cor. Section 21.

Standard Oil Co. has bought John Woodley's 800 acres south of Woodley & Collins' No. 1 Harp in Section 22-22-7, which also created excitement when it tested 1,000,000 feet of gas and salt water at 2,483 feet last March only to be abandoned as a salt water hole at 3,065 feet two months later. Sam Hunter's No. 9 Allison, Section 18-20-5, Morehouse, was completed, gauging 3,000,000 feet of gas at a total depth of 2,217 feet.

Ouachita Natural Gas Co. is arranging to go back to No. 2-B D'Arbonne in Section 25-19-2e, Ouachita Parish, a wildcat southwest of Monroe which has been under water for the greater part of the year, and drill it deeper. It is at a total depth of 3,349 feet. J. B. Bond's No. 1 McEnery, Section 19-19-4 Ouachita, gauged 2,872,000 feet of gas at 890 pounds, total depth 2,191 feet, and Mack & Pipes' No. 1 S. Wallace, Section 7-18-5, made only 500,000 feet of gas, total depth 2,225 feet.

Three producers and two wildcat failures were Union Parish's contribution to the Monroe district's completions. Bahan & Bahan completed No. 1 Peake, Section 17-20-4, gauging 5,000,000 feet of gas, total depth 2,140 feet, Harrell & Jones' No. 1 Stripling made 8,500,000 feet, total depth 2,150 feet, and Natural Gas Producing Co.'s No. 3 Hale, Section 11-21-3, gauged 4,986,000 feet at 1,050 pounds, total depth 2,196 feet. H. C. McDonald's No. 1 U. S., Section 18-23-1e, shut down at 1,500 feet last December, was dropped from the report, as was J. E. Cammattee's No. 2 Tugwell in Section 21-22-1e, shut down at 2,450 feet for the last few months, abandoned as a dry hole.

Palmer Makes Four Completions

Richland Parish has no completions, but Palmer Corp. made locations for four more wells on the north edge of the field and International Gas Products Co. made location for another in SE cor. of proven territory. The Palmer wells are No. 1 Boykin in NW SW Section 21-17-6, No. 4 Marshfield in SE SW Section 20-17-6, No. 1 Mulhern in NE NW Section 29-17-6 and No. 4 Rhymes in NE NW Section 28-17-6, on all of which it has derrick up. International's new test is No. 1-A Beck in NW NW Section 33-16-6. These were five of 27 new jobs begun in the Shreveport division in the last week.

Hope Producing Co.'s No. 1 Eubanks in Section 26-17-6 cored crystallized lime at 2,876-80 feet and Magnolia Petroleum Co.'s No. 3 C. M. Noble, Section 34-16-5 in the southwest corner of the field cored gumbo at 2,535 feet. Both are edge wells and missed production at normal pay depth of 2,450 feet.

Eylers Oil Co.'s No. 1 Chaffraix in Section 30-12-10, Red River Parish, 3 or 4 miles south of Bull Bayou production, tested dry at 2,626 feet but at 2,660 feet made an estimated 5,000,000 feet of gas. It will not be finished as a commercial gas well, probably killing the gas and going deeper instead.

Harry Morgan has taken over the Root Refining Co.'s No. 1 Home Savings and State Bank in Section 8-13-10, on the north edge of Bull Bayou and plans taking it to 5,000 feet "unless." The well showed a little oil with salt water on a drill stem test at 2,570 feet, cored a sand showing a small amount of gas at 2,598 feet and was shut down at 2,667 feet.

Completions in Three Counties

Marion, Harrison and Panola, the three producing counties of east Texas, each had a completion, oil, gas and a failure, respectively. Pettit Oil Co.'s No. 3 Rives in the M. G. Noll Survey of Marion County, along the state line in Marion County, pumped 20 bbls. of oil and 150 of water from 2,306 feet. Nick Barbare completed No. 16 Furrh, Joel Lipscomb Survey in Harrison County, making 600,000 feet of gas, total depth 2,372 feet. Magnolia Petroleum Co.'s No. 3 Ella Baker, B. C. Jordan Survey in Panola County was junked at 2,820 feet. It was completed in March last year as a 2,500,000-foot gas well at 980 feet. Locations for three new wells were made in the Waskom district of Harrison County and six in the Bethany district of Panola County.

Phillips Petroleum Co. made a drill stem test on No. 1 Freeman-Smith, Section 25-16-13, Calhoun County Arkansas, in the Nacatoch from 2,367-81 feet, 14 feet of solid sand, and got salt water. On an elevation of 92 feet this was checking 71 feet lower and 99 feet lower, respectively than two other wells in its vicinity. Location is about 6 miles east of Champagnolle. Root Refineries' No. 1 Oliver in Section 18-17-13, Union County, a half-mile south of production in the eastern extension of Champagnolle, tested salt water and was abandoned at 3,310 feet. E. L. Foster's No. 1 Murphy Land Co., in Section 22-17-17, Lisbon district of Union County, shut down at 1,400 feet for a year, was dropped from the list. E. L. Chapman completed No. 1 Purifoy, Section 2-16-16 Union County, Smackover, pumping 15 bbls., total depth 2,150 feet and Lovett and others' No. 1 Goodwin & Stone, Section 3-16-16, was abandoned at 3,195 feet after coring a salt water sand.

Three Ouachita County Wells

Three wells in the Ouachita County side of Smackover were producers. Marine Oil Co.'s No. 1-A Snyder, Section

(Continued on Page 126)

WILDCAT OPERATIONS IN LOUISIANA-ARKANSAS

NORTH LOUISIANA
BIENVILLE PARISH

Company, farm and location—	Remarks:
W. G. Gray's No. 1 Snyder, SW NE, Sec. 15-17-6	Drlg. gumbo 3,050 ft.
BOSSIER PARISH	
Corbett and others' No. 1 Murff, SE cor. NE Sec. 18-17-11	Shut down 990 ft.
Nell & Lanier's No. 1 Biedenharn, SE cor. Sec. 23-21-14	S.D. 790 ft.
Triangle Drlg. Co.'s No. 1 Thigpen & Herold, 1,320 ft. W, 660 ft. N, SE cor., Sec. 11-17-12	Cmtd. 12½-in; drlg. 868 ft.
Walker and others' No. 1 Antrim, NW cor. SE Sec. 28-22-13	Drilled 4 ft. deeper; bailed dry; T.D. 3,021 ft; S.D.
Woodmansee and others' No. 1 Bollinger, SE cor. NE Sec. 9-22-11	Shut down waiting orders 3,532 ft.
CADDO PARISH	
D. C. R. Oil Co.'s No. 2 Oden, 892 ft. W, 264 ft. S, NE cor. NE NW, Sec. 20-19-14	S.O.; tested dry 2,445 ft; S.D.; W. O. 2,550 ft.
Lide et als' No. 1 Levee Board, 200 ft. S, 200 ft. W, NE cor., Sec. 24-19-15	Rigging up.
Fred McWilliams' No. 1 Oden, 1,650 ft. S, 330 ft. W, NE cor., Sec. 20-19-14	Rig up.
S. T. Onyett, trustee's No. 1 Dixon, SW cor. Sec. 10-19-14	Drlg. 1,270 ft.
I. N. Pharis, trustee's No. 1 Oden, NE cor. SE NE Sec. 19-19-14	Rig up.
Haynes Bros., No. 1 Oden, NE cor. NW, Sec. 1919-14	Cmtd. 6⅝-in. 2,382 ft; T.D. 2,390 ft.
Lide et als' No. 1 Hunter, 200 ft. S, 200 ft. E, NW cor., Sec. 22-19-14	S.D. repairing rig; T.D. 1,010 ft.
R. W. Norton's No. 1 Hill, 630 ft. N, 1,260 ft. W, SE cor. NE, Sec. 33-23-16	Rigging up.
Ray-Dawes Drlg. Co.'s No. 2 Hunter, 330 ft. N, 330 ft. E, SW cor., Sec. 9-19-14	Showed oil and gas 2,384 ft; in sand 2,412-23 ft; tried to blow out; cmtd. 6⅝-in. 2,384 ft.
Simplex Oil Co.'s No. 1 Dickson, 660 ft. N. and E. C. Sec. 33-20-14	Tested dry 2,468 ft; S.D. waiting orders 2,702 ft.
A. H. Tarver's No. 1 Glassell & Dickson, 300 ft. N, 300 ft. E, SW cor., Sec. 31-20-14	Cmtd. 6⅝-in. 2,150 ft; T.D. 2,470 ft.

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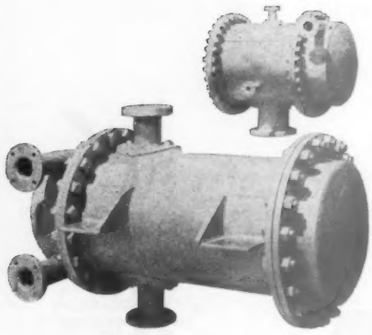

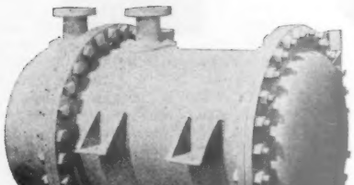

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Another Proven Dome in Gulf Coast

New Pool Near Stillson, Liberty County. Old Humble Field Yields Good Well. Barbers Hill Now Producing 17,000 Bbls.

By Neil Williams
Staff Correspondent, Gulf Coast Fields

HOUSTON, Tex., Aug. 19.—Proving of another of the Gulf Coast's new torsion balance dome prospects, that in the western part of Liberty County near Stilson, and testing of a good gas showing at another near Mykawa, south of Houston in Harris County, were among the principal developments in field operations of this division the past week. In addition to this, the finding of deep flank production at Anse La Butte, St. Martin Parish, and the completion of a formidable array of good wells, two of which are flowing better than 4,000 bbls. daily, at several other domes indicated some of the results of the increased activity which has been going on over this area.

The chief interest of operators was centered on Harvey Smith's wildcat producer drilled on a 34.8-acre tract of the Moore's Bluff Corp. in the C. C. Brunson Survey of western Liberty County. This well, which opens an entirely new field for development, was completed late Thursday flowing an estimated 500 bbls. of pipe line oil on a half-inch choke from a sand at 3,304-20 feet. The oil is Grade A, with the gravity, corrected for temperature, being 21.7 degrees. Temperature of the well is 82 degrees and the well pressure 60 pounds.

Center of 7,000-Acre Block

The tract on which this wildcat is located lies in the center of a solid block of approximately 7,000 acres held by the Union Exploration Co., which now is a part of the holdings of the recently organized Cranfill & Reynolds company. The block is believed to overlie another salt dome, which was checked by the Union Exploration Co. with the torsion balance over a year ago. The latter company after checking a dome was able to get all the acreage except the one 34.8-acre tract.

The completion of the producer is being followed by the finding of a shallower oil sand in Union Exploration Co.'s No. 3 Esperson, approximately 2,500 feet to the northwest of the Harvey Smith wildcat. The sand is from 1,817-30 feet and 9¼-inch casing has been cemented at 1,809 feet preparatory to testing.

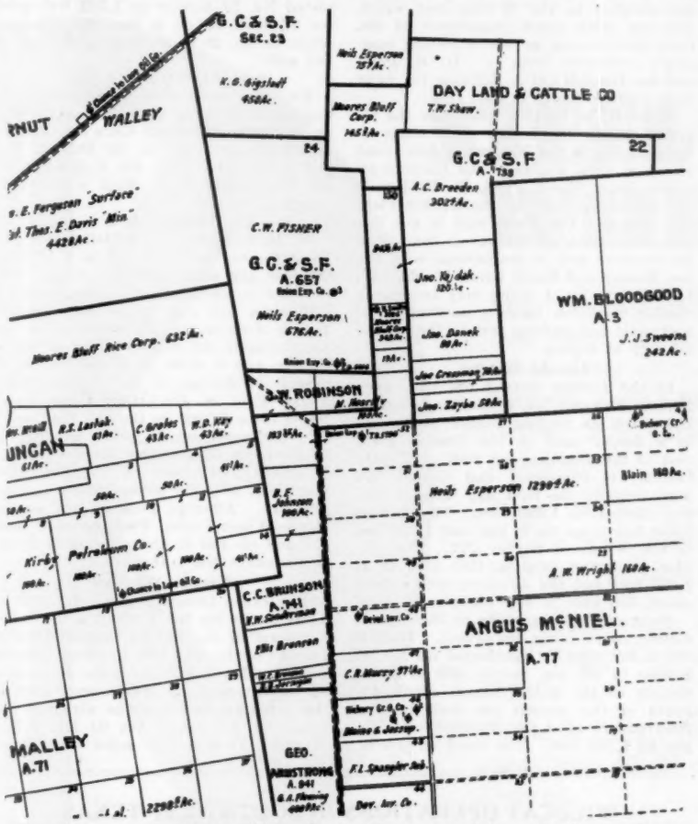
Union Exploration Co. previously has drilled two other tests, Nos. 1 and 2 Esperson, both some distance to the south and each being abandoned. No. 1 at 5,798 feet and No. 2 at 6,014 feet. The latter two encountered showings but they probably were too far off the dome. They were in the Angus McNeil Survey and the C. W. Fisher Survey, respectively.

The testing of a sand in the third wildcat drilled on the Mykawa torsion balance dome south of Houston is being watched closely by all operators as this prospect, following its discovery as one of the first of the long string of new geophysical domes which have been brought to light in the last two years, occasioned an unusually active lease play at that time in which virtually all major companies got in. This test, Humble Oil & Refining Co.'s No. 2 Irvin, believed to be located on top of the dome, tested a strong showing of gas at 4,189 feet. Although late Saturday screen was being set and christmas tree connections being made it was stated that the test probably would be deepened.

Old Humble Yields Big Well

The deep sand pool on the south side of the old Humble Dome again figured conspicuously when South Texas Petroleum Co.'s No. 8 Morris came in flowing at the rate of 4,500 bbls. of pipe line oil from sand and shale at a total depth of 5,316 feet with 540 feet of screen in the hole. This well is the most southerly of that group, nearly all of which have been prolific producers. Humble Oil & Refining Co.'s No. 3 Williams, also on the south side of Humble but some distance to the southwest around the dome, was bailing as the week closed to test a sand and shale at a total depth of 3,808 feet.

Next to the No. 8 Morris at Humble in size during the week was Republic Production Co.'s No. 68 Dolbear at Hull which is flowing better than 4,000 bbls., 18 per cent b.s. and water. This well has been largely in the spotlight because after coming in two weeks ago it caught fire and burned wild for a week. The well, which was a former producer deepened approximately 100 feet to 2,589 feet, was completed for 1,500 bbls. daily but while burning out of control increased its output to the present figure. The well has had quite a history as 10 years ago, completed for an estimated 10,000 bbls. daily, it caught fire and burned for two weeks.



Map of new area in western Liberty County, Texas, opened for production by Harvey Smith's No. 1 Moores Bluff Corp. in the C. C. Brunson Survey. With the exception of this tract all the acreage is held by the Union Exploration Co.

Republic Production Co.'s No. 68 Dolbear at Hull which is flowing better than 4,000 bbls., 18 per cent b.s. and water. This well has been largely in the spotlight because after coming in two weeks ago it caught fire and burned wild for a week. The well, which was a former producer deepened approximately 100 feet to 2,589 feet, was completed for 1,500 bbls. daily but while burning out of control increased its output to the present figure. The well has had quite a history as 10 years ago, completed for an estimated 10,000 bbls. daily, it caught fire and burned for two weeks.

Barbers Hill Most Active

Barbers Hill continued the most active field on the Gulf Coast with development going forward in the deep flank sands in three separate pools, one the east, southeast and south with indications that they will be joined in an unbroken string of production shortly. This development added four more producers to the total and four others are due to be completed early this week. Yount Lee Oil Co. on the south side of the dome got the best well, its No. 7 Chambers County flowing 2,585 bbls. of pipe line oil on a half-inch choke in the first 24 hours from a sand at 5,302 feet. The oil is 30.8 gravity.

Following this Humphreys Corp. Friday completed two good wells in one day, its No. 2-H Kirby and its No. 1 Illfrey. The latter flowed initially at the rate of 1,600 bbls. daily at 5,238 feet, and the latter 2,000 bbls. at 5,151 feet. The other Barbers Hill completion was small, flowing only an estimated 100 bbls. daily at 5,169 feet. It was Rexal Oil Co.'s No. 1 Smith on the east side.

These completions have pushed Barbers Hill well into second place among Gulf Coast fields in production with the daily output now up to better than 17,000 bbls., although the wells were brought in too late to bring the daily average for the past week up to that figure. The field easily has passed Pierce Junction which has dropped to slightly above 14,000 bbls. daily. The latter field, however, now is experiencing a lull which has not been witnessed in several years.

Yount Lee Oil Co.'s No. 5 Louisiana Petroleum Co., which opened deep sand production on the northeast side of the old Anse La Butte Dome when it was completed early in the week flowing 900 bbls. daily of 32.5 gravity pipe line oil from sand at 3,624 feet, has proved short-lived. It stopped flowing after a sharp decline in output from the initial rating and at present it is standing.

Rex Petroleum Co. extended production at Edgerly 600 feet to the north with its No. 10 Hunter which came in flowing an estimated 1,500 bbls. daily of oil, 5 per cent b.s., from a sand slightly below 4,334 feet. At DeWalt, Humble Oil & Refining Co. added two more wells in its No. 5 Hammer fee, flowing 1,200 bbls. of pipe line oil daily at 3,597 feet, and No. 2 Dew, flowing 600 bbls. at 3,584 feet.

Sun Oil Gets 300-Bbl. Well

Of interest in the Refugio Field was Sun Oil Co.'s No. 2 Rea, which after being completed as a gas well with a slight spray of oil in sand at 3,654-78 feet, started producing oil and Saturday was flowing 300 bbls. daily of pipe line oil through a five-sixteenths-inch choke. Saxet Oil Co.'s No. 5 Claude Heard at Refugio also was completed as a gasser with a spray of oil at 3,667-74 feet, but in this the gas has been killed and the hole will be deepened. The well is a workover, having been completed originally in the 3,700-foot sand flowing 80 bbls. daily and then was deepened to 5,004 feet where it tested salt water. It was plugged back to the 3,700-foot sand.

Gulf Production Co.'s No. 7 Bordages was brought in flowing an estimated 100 bbls. daily of 5,675 feet. This well was brought in last June from the same sand, flowing 1,000 bbls. daily, but did not hold up and then was deepened to 5,955 feet, testing salt water. Other completions of the week were: Sun Oil Co.'s No. 46 Mitchell, South Liberty Dome,

(Continued on Page 131)

GULF COAST FIELDS AND WILDCATS

Week Ended August 17

BARBERS HILL—CHAMBERS COUNTY

Mills Bennett Production Co.'s No. 1 Collier (southeast)	Spudded.
Mills Bennett Production Co.'s No. 1 Barber (north side)	Sidetracking.
Mills Bennett Production Co.'s No. 7 Barrow (workover)	Drlg. shale 4,617 ft.
Humphreys Corp.'s No. 3-A Kirby, east flank	Drlg. hard lime 5,552 ft.
Humphreys Corp.'s No. 1-H Kirby, east flank	Cem. 7-in. casing 5,015 ft.; to test oil sand.
Humphreys Corp.'s No. 2-H Kirby, east side	Comp. flowing 1,600 bbls. oil 5,238 ft.
Humphreys Corp.'s No. 3-H Kirby, east side	Waiting cement to set to test oil sand 5,053 ft.
Humphrey's Corp.'s No. 1 Tarbutton, east flank	Drlg. sand and shale 5,142 ft.
Humphreys Corp.'s No. 1 Illfrey, east flank	Comp. flowing 2,000 bbls. oil 5,151 ft.
D. B. McDaniels' No. 1 Woodward (southeast)	Drlg. gumbo 2,350 ft.
D. B. McDaniels' No. 2 Woodward (southeast)	Drlg. gumbo and lime 2,940 ft.
Republic Prod. Co.'s No. 2 McKinney (southeast)	Drlg. shale 1,984 ft.
Rexal Oil Co.'s No. 3 McLean, east flank	Drlg. shale 3,937 ft.
Rexal Oil Co.'s No. 1 Smith, east flank	Comp. flowing 100 bbls. oil 5,169 ft.
Rexal Oil Co.'s No. 1 Cockburn, east flank	Drlg. sand and shale showing oil 5,162 ft.
Sinclair Oil & Gas Co.'s No. 1 McKinney (southeast)	Rigging up.
Sinclair Oil & Gas Co.'s No. 1 Wilburn (southeast)	Rigging up.
Sun Oil Co.'s No. 3 Chambers, south flank	Drlg. shale and lime 4,518 ft.
Sun Oil Co.'s No. 1 McKinney (southeast)	Drlg. gumbo and lime 2,699 ft.
Sun Oil Co.'s No. 2 McKinney (southeast)	Rig.
Sun Oil Co.'s No. 1 Wilburn (southeast)	Drlg. gumbo 1,730 ft.
The Texas Company's No. 1 Wilburn (southeast)	Location.
Yount Lee Oil Co.'s No. 4 Chambers, southwest	Drlg. sand and lime 7,755 ft.
Yount Lee Oil Co.'s No. 7 Chambers, south	Comp. flowing 2,585 bbls. oil on half inch choke 5,302 ft.
Yount Lee Oil Co.'s No. 1 Kirby, southeast	Drlg. shale 5,592 ft.
Yount Lee Oil Co.'s No. 1 Woodward (southeast)	Drlg. shale and lime 3,611 ft.

(Continued on Page 128)

R. R. Penn's Test Attracts Interest

Operators Somewhat Puzzled Regarding Well Which Is Located Between Joe Bruner Pool and Darst Creek Discovery

By B. D. Stevenson
Staff Correspondent, Southwest Texas Fields

SAN ANTONIO, Tex., Aug. 19.—R. R. Penn's No. 1 Manford in Guadalupe County midway between the Joe Bruner Pool and the new Darst Creek discovery and in line with the trend of the two fields, which blew in early last week, attracted a lot of attention, but the industry does not yet know all that it would like to about the new proposition. Information on the test is readily available, but it is not fully understood. At 2,418 feet the formation hardened up and the crew changed to a rock bit. Because of the hardening up and the cuttings it is believed to be the top of the Austin chalk. At that depth it seems a little low but the well blew in making a lot of gas and some water and some oil. It cratered in several places and for a time looked dangerous but was finally mudded in and an attempt made to set casing. The casing stuck off the bottom about 400 feet and at last reports late in the week it was reaming down to get the casing in. Late last week Simms Oil Co. and Gene Germany paid $25,000 cash for a half interest in the test and 280 acres of land on which the test is located and agree to pay an additional $100,000 out of oil that may be produced. Oil from the Penn well is 36 gravity A.P.I.

Late in the week also The Texas Company had completed its No. 1 Lemmie Anderson, the first test well drilled after the bringing in of the discovery well of the Darst Creek Field. Total depth is 2,631 feet and it is 9 feet into the Edwards, making it top the lime at 2,622 feet compared with 2,605 feet top of Edwards in No. 1 Dallas Wilson. The test is 300 feet north of No. 1 Dallas Wilson. No. 1 Lemmie Anderson is expected to be fully as good a well as the discovery test. The discovery test is still shut down, under the agreement of operators and also to clear titles. The test of Strube & Strube and Cranfill & Reynolds on the Denman tract approximately a half-mile almost due north of the discovery well of the field at 2,276 feet is not yet in the chalk and looks like a dry hole. Top of the chalk in the discovery well was at 2,237 feet. At least it looks a little discouraging at the time this is being written. The test is so near the discovery well that it promises to help very materially to find the trend of the field and may contribute a lot of geological information even if it isn't a financial success.

Starts New Development

This new Darst Creek Field, the blowout in Penn's No. 1 Manford, the gas showing in the A. G. Keiffer's No. 1 Dix a few miles southeast from the Darst Creek discovery, and the gas showing that was reported some weeks ago in Walton's No. 1 Nolte, are resulting in several lines of new play that are important to Southwest Texas. The regional dip has to be taken into consideration. The trend of fields follows the Balcones Fault which is generally northeast and southwest and when anything happens it is the zone extending northeast and southwest from it that geologists at once begin to study. The regional dip is at right angles to the Balcones and so is toward the southeast. Penn's No. 1 Manford in Guadalupe County is a very little southeast of a line from the Joe Bruner Field at Luling to the new Darst Creek discovery well but there is supposed to be a bow in the line of the fault, the two fields being probably on the same fracture.

W. J. Walton's No. 1 Nolte is approximately 10 miles to the northwest up the dip from Penn's well and due to the gas showing in the Walton test which was not given much importance at the time there is now an active leasing campaign southwest from it. R. R. Penn and the Humble Oil & Refining Co. have each acquired leases in that area.

It should be kept in mind that the regional dip in the Luling area, while at right angles to the Balcones Fault trend is not at right angles to the fracture on which Darst Creek Field, R. R. Penn's No. 1 Manford and the Joe Bruner Field are located. The Penn well is not low as to the regional dip but is low as to the fracture and in comparison with the Joe Bruner and Darst Creek Fields. W. J. Walton's No. 1 Nolte may indicate a similar condition running northeast and southwest and passing just to the east of the city of Seguin.

Laredo District

In the Laredo district the past week Killam-Duggan's No. 5 Cuellar, reported last week as finding bigger production in a deeper sand in the Cuellar Field east of the Jennings gas field in Zapata County, is completed and flowed 300 bbls. initially the first day through tubing. Depth is 1,593 feet. The well is 2,900 feet from the E line and 1,350 feet to the S line of Survey 277. The regular producing sand in that area is at 1,465 feet and the discovery well flowed about 150 bbls. a day for several days.

Some other completions in the Laredo district were fairly important. Humble Oil & Refining Co. completed its No. 32 Kohler in SE cor. Survey 399 in Duval County on the Kohler ranch, a mile due north of the nearest gas well in that field and is good for 10,000,000 feet of gas at 1,760 feet. The trend of production is a little east of north and the new gasser is just 2 miles due east of five little oil wells belonging to the Humble and producing at around 2,900 feet. On the south end of this area Humble completed No. 31 Kohler at 1,792 feet good for 75 bbls. of oil a day and an east offset to No. 28 at the same depth and a gas well.

Schoolfield-O'Byrne Pool

Two new wells were completed in the Schoolfield-O'Byrne Pool in Duval County, Magnolia Petroleum Co.'s No. 1 Hahl at 2,340 feet good for 50 bbls. a day and S. & O. Oil Co.'s No. 6 Hahl at 2,330 feet for 75 bbls. Both were inside locations.

Albercas Area

W. R. Shankle's No. 1 Holbein in Jim Hogg County at 2,138 feet is a 10,000,000-foot gas well spraying oil. It was reported a week ago as having made a drill stem test and to be looking good. It is a little to the southwest of nearest production in the Albercas Pool in Webb County and a little to the northeast of nearest production in the Henne-Winch-Fariss Pool in Jim Hogg County and seems to be filling up the gap that many have supposed would prove productive. It proves up considerable acreage in both directions and seems to indicate that there will be some more drilling in that territory. Albercas Pool as well as the Henne-Winch-Fariss Pool produce both gas and oil and at about the same depth as Shankle's No. 1 Holbein.

Laredo Wildcats

The Texas Company got a dry hole at 3,204 feet in its No. 1 Hyatt a few miles northeast of the Robert Driscoll Pool in Duval County. The hole has been plugged and abandoned and the hope of picking up an extension of the Driscoll Pool to the northeast now remains with the National Oil Co. which has its No. 2 Ball started. It is a few miles away from the Driscoll proposition but in the area and when it gets down around sand depths will be interesting to watch.

Kingsville Field

Humble Oil & Refining Co. got hot salt water at 5,677 feet in its No. 4 Flato in the Kingsville Field in Kleberg County. It got also a slight showing of oil. In the last 1,000 feet three sands have been tested in this well and each of them reported about the same verdict. The sands looked fairly good when cored. The No. 4 Flato is now below 6,000 feet.

Trapshooter Reilly got salt water instead of oil or gas in his No. 2 Benavides on the south edge of the Carolina-Texas Field in Webb County in sand at 2,140. Field in Webb County in sand at 2,140 1, which extended the field a mile south for the 3,000-foot production. On the way down with his No. 2, Reilly thought he might bring in the 2,140-foot sand for gas since it is producing in Marshall's No. 1 Webster, a half-mile north, but it failed to get it. It is down 2,600 feet now and coring for an oil sand found at that depth a half-mile north.

Magnolia Petroleum Co.'s No. 1 Benavides in the center of Survey 660 and a half-mile north of gas production in the Magnolia-Cole Pool in Duval County, which failed to get production at the regular sand depth around 2,360 feet, kept on drilling and is now down below 4,000 feet and coring.

Corpus Christi Area

Several new wells and some additional buying in the coast counties north and south of Corpus Christi and 50 miles inland feature that area. Trinity Drillers have started No. 1 Tompkins in Nueces County west of Corpus Christi in the Petronella area.

Tom Horn and associates have taken a block of leases in western Bee County near the Live Oak County line and California people will drill a test on it.

Southwest Texas

Branyon	25
Bruner	48,062
Dale	469
Darst Creek	0
Kingsville	675
Larremore	158
Luling	11,425
Lytton Springs	971
McMullen County	35
Medina County	32
Mirando	10,476
Somerset	1,763
Yoast	1,295
Total	75,296
Week ending August 10	76,503
Decrease	1,207

Humble Field—Duval

Humble Oil & Refining Co.'s No. 22 Kohler, Survey 395, located 495 feet west line, 165 feet north line, at 1,854-78 feet, showing gas, oil and salt water; No. 30 Kohler, Section 169, located 165 feet north and west lines, at 1,760 feet, placing on pump; No. 31 Kohler, Survey 172, located 495 feet east line, 165 feet north line, at 1,783 feet, standing, tested salt water; No. 32 Kohler, Survey 399, located 495 feet east line, 165 feet south line, at 1,700 feet, standing. Houston Oil Co.'s No. 1 Peters, Survey 161, located 495 feet west line, 165 feet south line, location. Sun Oil Co.'s No. 2 Lopez, Survey 730, located 1,000 feet south line, 150 feet east line, rigging up.

Driscoll Field

The Texas Company's No. 1 Hyatt, Block 25, Sweeden Farm Tracts, 660 feet east line, 1,960 feet north line, at 800 feet, drilling.

Schoolfield-O'Byrne Field

Magnolia Petroleum Co.'s No. 4 Hahl, Survey 250, Block 24, located 150 feet north line, 450 feet east line, at 2,338

(Continued on Page 124)

WILDCAT OPERATIONS IN SOUTHWEST TEXAS

ARANSAS COUNTY

United North and South Dev. Co.'s No. 1 Kate Edwards, Lewis Sur. ..... Drlg. 1,360 ft.

ATASCOSA COUNTY

Tom Draper's No. 1 McCoy, Sur. 234 ..... Location.
Amphion Oil Co.'s No. 1 Sam Schlisser ..... Shut down 2,300 ft.; repairing rig.

BASTROP COUNTY

Gulf Production Co.'s No. 2 Bell, Riley Sur. ..... Location.
Jim Harper and others' No. 1 R. R. Mitchell ..... Moving in.
Howell Oil Corp.'s No. 1 F. Wichman ..... Drlg. 1,995 ft.
Nelson et al's No. 2 Rundus, 100 ft. N of No. 1 ..... Drlg. 100 ft.
E. W. Ogden's No. 1 Goodman ..... Drlg. 2,540 ft.
Pacific Oil & Gas Co.'s No. 1 Darnell & Bickler, Martha Baker Sur. ..... Derrick.
Pacific Oil & Gas Co.'s No. 1 Spooner, Leverenz Sur. .... Drlg. 2,340 ft.
Moore & Ortman's No. 1 Ortman, Andrew Graham Sur. .. Location.
Frank Rundus' No. 1 fee ..... Abandoned 1,926 ft.
Superior Oil Co.'s No. 1 R. J. Moore, J. Raines Sur. .... Location.

BEE COUNTY

F. P. Zack's No. 1 Pettus Lucas ..... Moving in rig.

BEXAR COUNTY

Balcones Oil Corp.'s No. 1 F. A. Jackle ..... Drlg. 2,183 ft.; dry, waiting orders.
Guy S. Fisher's No. 1 S. L. Beck, P. W. Hays Sur. ..... Location.
Hamilton & Kennon's No. 1 Hamilton, near Gas Ridge .. Spudded in.
Moore-Jauer's No. 1 Holly R. Ellison ..... Drlg. 1,660 ft.; limy formation.
Mrs. A. R. Garrett's No. 1 Pönciano Pena ..... Drlg. 540 ft.
C. J. Le Compte's No. 3 R. Diaz, J. M. Urriegas Sur. .... Location.
Leon Oil Co.'s No. 1 Reiniger, 300 ft. E line, 215 ft. S line ..... Location.
E. G. Potter's No. 1 Watson, B. Martinez Sur. ..... Repairing rig 2,118 ft.

BLANCO COUNTY

J. Bekning's No. 1 Butler, Butler Sur. ..... Moving in machinery.
J. E. Forbes and others' No. 1 E. Bruckner ..... Drlg. 720 ft.
Ashe & Marshall's No. 1, 5 mi. S Johnson City ..... Location.

BROOKS COUNTY

Milam Drlg. Co.'s No. 6 Reilly Allen, SW part of county.. Formation test; drlg.
A. W. Dinn's No. 1-B Garcia ..... Shut down 450 ft.
Houston Oil Co. of Texas' No. 1 Lassiter, Survey 69..... Standing 3,500 ft., contract depth; waiting orders.

CALDWELL COUNTY

Cranfill & Reynolds' No. 1 Berensdorf, A. Floyd Sur. .. Location.
Cranfill & Reynolds' No. 2 Dauchy ..... Drlg. 1,040 ft.; shale.
J. A. Harper's No. 2 Miller ..... Abandoned 1,642 ft.
W. H. Harper's No. 3 Thomas, J. Roberts Sur. ..... Moving in machinery.
H. C. Ratcliff's No. 1 J. E. Cardwell, J. P. Bell Survey... Rigging up.
John T. Callahan and others' No. 1 W. Ellison ..... Drlg. 2,370 ft.
M. O. Rayor's No. 1 J. Keefer ..... Abandoned 2,775 ft.
J. S. Brutsche's No. 1, R. L. Quinn Sur. ..... Location.

COLORADO COUNTY

Cagle-Concord Oil Co.'s No. 1, Sec. 42 ..... Spudded in.

(Continued on Page 130)

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All-Steel Standard Rigs	■	Miscellaneous Drilling Equipment	■

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West Maljamar Has Several Showings

Wells Northeast of Artesia Pool, New Mexico, Attracting Attention. Kane County, Utah, to Have Important Test

By Tolbert R. Ingram
Staff Correspondent, Rocky Mountain Area

DENVER, Colo., Aug. 19.—The West Maljamar district, northeast of the Artesia Pool in Eddy County, New Mexico, attracted especial attention this week when several of the wells began showing oil. The Pueblo Oil Co.'s No. 4 Russell made a head of 100 bbls. after a swabbing test; Flynn, Welch & Yates' No. 2 Gissler has 2,600 feet of oil in the hole and the Prairie Oil & Gas Co.'s No. 2 Keele has 350 feet of oil in the hole. In Lea County, the Midwest Refining Co.'s No. 31 Capps, in the Hobbs district, increased with deeper drilling and made 832 bbls. in 24 hours. Same company has more gas in its No. 22 Gregory in the Jal district and the Continental Oil Co.'s No. 1 Wells is plugging back to an oil and gas horizon. The Humble Oil & Refining Co.'s No. 1 Bowers, Lovington district, showed for 10,000,000 feet of gas.

Utah is to have another important test in the southern part in Kane County to be drilled by the Utah Oil Refining Co. Colorado operations had little development of importance.

Two completions in Salt Creek, one making 2,084 bbls. and the other 262 bbls.; a 100-bbl. well for the Ohio Oil Co. in Rock Creek; a 100-bbl. well for the California Petroleum Co. in La Barge, and failures in the Midwest's test on the Waterfall structure and the abandonment of the California's No. 1 Bushell in Snyder Basin, were the principal developments in Wyoming.

NEW MEXICO

The area northeast of the Artesia Pool in Eddy County, generally referred to as the West Maljamar district, occupied first place in the New Mexico news this week due to oil showing in several of the drilling wells. The most promising is the Pueblo Oil Co.'s No. 4 Russell, NW cor. Section 18-17-31, located 1,200 feet east of Flynn, Welch & Yates' No. 1 Jackson, C NE Section 13-17-30, which was completed last March and averaged 255 bbls. a day on a 10-day test at a total depth of 3,560 feet. No. 4 Russell is bottomed at 3,475 feet with 2,500 feet of oil in the hole. It was given a swabbing test and made 45 bbls. in half an hour. The agitation caused it to flow and it was reported making 100 bbls. within an hour. The breaks carrying the oil were found at 3,350-55, 3,464 and 3,471-75 feet. Flynn, Welch & Yates' No. 2 Gissler, SE cor. SW Section 12-17-30, a half mile northwest of No. 1 Jackson, also is showing more oil. It is bottomed at 3,430 feet in brown lime with 2,600 feet of oil in the hole coming from the breaks at 3,369-72 and 3,400-10 feet. The Prairie Oil & Gas Co.'s No. 2 Keel, SW cor. Section 7-17-31, is drilling at 3,377 feet in gray lime with 350 feet of oil in the hole coming from breaks at 3,337-43 and 3,315 feet. This is an offset on the north of No. 4 Russell. The Grayburg Oil Co.'s No. 2 Burch, C NW SW Section 19-17-30, which came in last month as a producer, has been completed at a total depth of 3,200 feet and is flowing at the rate of 62 bbls. a day through 2-inch tubing. This company has made a location for its No. 2 Keely, C SE NE Section 24-17-29. The Pueblo Oil Co.'s No. 1 Lee, NE cor. Section 34-17-29, is bottomed at 3,035 feet and has 500 feet of oil in the hole coming from a break at 2,970-75 feet. This well is 1½ miles southwest of No. 2 Burch. Other Eddy County operations include the following: Continental Oil Co.'s No. 1 Cunningham, NE NE Section 8-20-30, is bottomed at 1,600 feet and waiting for cement to set. Lockhart Oil Co.'s No. 1 McAllister, C NW Section 23-26-30, has rig up. R. D. Compton's No. 1 Stewart, NE NW Section 28-20-27, is shut down in lime at 565 feet, and Mesa Oil Co.'s No. 1 Seale, SW SW Section 12-20-27, is drilling at 380 feet in lime.

Hobbs District

In Lea County, the Midwest Refining Co.'s No. 31 Capps, SW cor. Section 3-19-38, is in the Hobbs district, which commenced making 400 bbls. of oil per day in the top of the pay at 4,030 feet, has been drilled to 4,220 feet and the production increased steadily. At 4,142 feet it made 450 bbls. in 24 hours and at 4,200 feet it had increased to 782 bbls. At 4,220 feet it made 832 bbls. in 24 hours on August 5. It looks as if this well will equal or do better than the discovery to which it is an offset on the northeast. It is being cleaned preliminary to making a production test. The Midwest's No. 24 Leach, SE NW Section 15-19-38, is drilling at 2,802 feet in anhydrite. The Ohio Oil Co.'s No. 1 State, SE SW Section 9-19-38, is bottomed at 1,605 feet in anhydrite at which depth the 10-inch was set and cemented. The rotary rig is being torn down to standardize. The Shell Petroleum Co.'s No. 1 Terry, SW NE Section 22-19-38, is drilling at 1,218 feet in red rock, and Harry Walker's No. 1 Terry, SW SE Section 10-19-38, is shut down at 3,315 feet in lime. It had an oil show at 3,265-75 feet and a gas show at 3,305 feet.

In the Jal district, the Continental Oil Co.'s No. 1 Wells, SE NE Section 11-25-36, reported last week as having 1,500 feet of water in the hole at 3,205 feet, is being plugged back to test a showing around 3,100 feet. At this depth it was reported making approximately 10,000,000 feet of gas and spraying 12 bbls. of oil. Its location is 1½ miles due north of Cranfill & Reynolds' No. 1 Wilson, a small producer. The Midwest Refining Co.'s No. 22 Gregory, SE SW Section 31-25-37, which killed a flow of 70,000,000 feet of gas at 3,071 feet to drill deeper, changed over to a rotary and encountered more gas at 3,165 feet, the flow testing 6,000,000 feet. It is drilling ahead in lime at 3,290 feet. The Texas Production Co.'s No. 1 Shepherd, SE cor. NE Section 6-26-37, after cementing at 3,285 feet, is making connections with pipe line to put the well on production. It averaged around 1,500 bbls. a day when tested. The Humble Oil & Refining Co.'s No. 1-B Lindley, C SE SE Section 14-25-36, commenced spudding on August 4 and is drilling at 278 feet in hard white sand.

San Simion District

In the San Simion district the Continental Oil Co.'s No. 1 Flint, SE cor. Section 28-20-34, is drilling at 3,775 feet and Cranfill & Reynolds' No. 1-B State, NE cor. Section 2-21-33, is fishing for stem at a total depth of 3,475 feet. C. E. Reynolds and others' No. 1 Merchant, SE cor. NE Section 15-22-34, lost the hole at 690 feet and is skidding the rig. Joe Cook and others' No. 1 State, NW NE Section 12-21-33, is drilling at 3,712 feet in broken lime. The top of the lime was at 3,705 feet, 65 feet above sea level, and the base of the salt at 3,670 feet. Bull & Hagen's No. 1 State, C NE Section 33-11-35, in the Tatum district, is drilling in lime at 1,850 feet and carrying the 6⅝-inch. The Ohio Oil Co.'s No. 1 McGeorge, SE NW Section 30-20-33, Pearl district, is bottomed at 3,015 feet and has reduced the hole to 6 inches preparatory to drilling deeper. Maljamar Oil & Gas Co.'s No. 2 Baish, NE cor. SW Section 21-17-32, is drilling at 1,075 feet in red shale. Humble Oil & Refining Co.'s No. 1 Bowers, C NE SE Section 30-15-38, in the Lovington district, is drilling at 2,788 feet in anhydrite. It had considerable gas, estimated at 10,000,000 feet, at 2,772 feet. Texas Pacific Coal & Oil Co.'s No. 2 State, NW SW Section 21-23-36, Ochoa district, is bottomed at 3,210 feet in anhydrite and preparing to core. Vacuum Oil Co.'s No. 1 State, center west section line Section 13-17-34, is bottomed at 4,900 feet and pulling tubing to drill deeper after making a test. The horizon showed about 40 bbls. a day. Continental Oil Co.'s No. 1 A. E. Meyers, SW SW Section 17-21-36, Eunice district, is drilling at 2,850 feet, and its No. 1 William Meyers, SW NW Section 28-22-36, is drilling at 1,300 feet.

In De Baca County, Transcontinental Oil Co.'s No. 1 McWhorter, SW NW Section 6-3s-22, is drilling at 4,470 feet in red shale and fighting caves. Matador Oil Co.'s No. 1 Wood, SW SW Section 6-4n-20, is drilling at 2,445 feet in red sandy shale.

In Chaves County, Cactus Petroleum Co. is moving in for a test in its No. 1 State, SE cor. Section 14-10s-26. Transcontinental Oil Co.'s No. 1 Robbins, SE cor. Section 1-14-28, is shut down at 4,410 feet in lime.

In Roosevelt County, Sloan & Smith's No. 1 Lovern, C SE Section 4-3s-35, is bottomed at 4,200 feet in brown sandy lime and waiting for casing.

In Otero County, Samuel Butler and others' No. 1 Wingo, NE SW Section 17-26-11, is fishing for bit at 455 feet.

In Valencia County, H. L. Williams' No. 1 Staplin (State lease), NE cor. Section 16-8n10w, commenced spudding on July 20 and is drilling at 390 feet in red shale.

In Rio Arriba County, San Juan Petroleum Co.'s No. 1, Section 15-30n-7w, Gobanardo district, has rig on location.

UTAH

The Utah Oil Refining Co., subsidiary of the Midwest Refining Co., is reported preparing to start a wildcat in the extreme southern part of Utah, about the center of the west half of Kane County and 20 miles south of Cannonville in Garfield County. This is due east of the Washington County operation where a few small producers have been developed. A crew of 50 men is at work building roads and it is understood the rig used in drilling the Elkridge test in San Juan County will be used. It is expected to be an expensive test as it is in a rough country and road building alone is expected to cost $35,000. Location has not been announced. The Midwest probably will be in charge of actual drilling.

O. D. Donnell, president of the Ohio Oil Co., one of the principals in the construction of the gas line from Wyoming into Utah, told the Ogden Chamber of Commerce at a special meeting held last week that natural gas would be turned into the Ogden mains within two weeks. Jack Donnell, Dewey Donnell, L. Fitzpatrick, A. W. Shruber, M. N. Lee, Jules D. Roberts and J. A. Howell connected with the organization were present.

Drilling operations in Utah revealed little outside of routine for the week. Continental Oil Co.'s Boundary Butte test in Section 22-43-22, San Juan County,

(Continued on Page 111)

ANOTHER BIG NAPHTHA PRODUCER REPORTED IN TURNER VALLEY FIELD

By Victor Lauriston
Staff Correspondent, Canadian Fields

CHATHAM, Ontario, Aug. 17.—In the Turner Valley Field, Foothills Oil & Gas Co.'s No. 2, LSD 8, Section 1-20-3w5, has brought in what looks like another big crude naphtha producer in the central section. The test, after getting a moderate wet gas production in the lime, was carried deeper, and at 4,693 feet, or 336 feet in the lime, encountered a wet gas flow estimated 10,000,000 feet a day with a crude naphtha recovery around 200 bbls. The tools are lost in the hole, and production will probably be taken at this depth. Foothills Oil & Gas Co., a subsidiary of Imperial Oil, Ltd., has one well in the north end making around 75 bbls. from the deep lime.

In the central section, British Dominion Oil Development Corp.'s No. 2, LSD 6, Section 12-20-3w5, encountered light crude in the Dalhousie sand at 4,822 feet, and is drilling at 4,860 feet with 600 feet of oil in the hole. It is making around 250,000 feet of gas. It may be continued to the deep lime, around 5,100 feet.

Among the tests of the Imperial group in the south end, Home Oil Co.'s No. 3, LSD 14, Section 20-19-2w5, is drilling about 96 feet in the lime at 5,119 feet, and making around 7,000,000 feet of wet gas. The test has about 80 feet to go before it reaches the main producing horizon of Home's Nos. 1 and 2. Mayland Oil Co.'s No. 2, LSD 8, Section 17-19-2w5, is drilling below 1,986 feet, after striking a show of dark crude at 1,700 feet.

Plans are on foot for a merger of the Home Oil Co. and the Calgary & Edmonton Corp. Hargal Oils' No. 1, Section 20-19-2w5, is reported to have spudded in.

Central Section

In the central section, McLeod Oil Co.'s No. 4, LSD 16, Section 1-20-3w5, is drilling more than 1,400 feet in the lime in a very hard formation at 5,110 feet depth. Some additional gas has been encountered. Reports that the well had drilled through the lime into an oil-bearing sand are officially denied. McLeod's No. 5, LSD 15, same section, has derrick finished. McLeod's Nos. 1 and 3, LSD 16, same section, are producing between 50 and 60 bbls. a day from the upper horizon of the lime. Midfield Oil Co.'s No. 2, LSD 9, Section 1-20-3w5, has cellar dug and is working on derrick. Calmont Oils' No. 3, same LSD, is rigged up ready to spud in. Okalta Oils' No. 5, LSD 7, same section, has spudded with cable tools and is drilling at 200 feet. Illinois-Alberta Oils' No. 2, LSD 14, Section 12-20-3w5, is making new hole about 3,651 feet, 100 feet in the lime, after sidetracking lost bit. New McDougall-Segur Oil Co.'s No. 1, same LSD, which has been taking light crude production from the Dakota sand at 2,495 feet, is preparing to drill to the deep lime horizon. No. 2, same LSD, is producing around 65 bbls. a day from the lime. Ranger Oil Co.'s No. 1, LSD 8, Section 1-20-3w5, has cellar dug, and will spud in about September 1.

In the south end, Calmont Oils' No. 4, LSD 11, Section 20-19-2w5, is drilling at 2,777 feet. Calmont's No. 7, same LSD, has cellar dug. Calmont's No. 8, same

(Continued on Page 123)

Jerry Grit ... talks about the Guiberson Plug.....

"The Guiberson Plug may be world-famous for stopping water, but it can't beat the one I rode in the Derby ..... that plug stopped breathing."
Jerry Grit

JERRY GRIT has had a host of followers, in his time, but this snapshot caught him bringing up the rear. If anyone should ask what was wrong with this picture, we would say that Jerry needs a cigarette. Even the mare he is riding has that cigarette-conscious appearance ... someone has been feeding them to her. Maybe they took Jerry's to do it with. Heavens! . . . What a break before a Derby!

But we would like to argue with Jerry a little bit about this plug proposition. The Guiberson Bottom Water Plug takes a hold with a screw-like grip, that is positively unbreakable. No gas pressure can blow it out, once it is collapsed into place. In this position, with its oakum packing pressed into every surrounding fissure and crevice, not a drop of water can pass and get into the well above. We will back the Guiberson Plug against any plug that can be found.

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GUIBERSON
BETTER BE SAFE THAN SORRY

Santa Fe Springs Has 21 New Wells

Deep Zone Exploitation Results in Continued Increase in Production. Kettleman Hills Operators Approve Conservation

By L. P. Stockman
Staff Correspondent, California Fields

LOS ANGELES, Calif., Aug. 17.—Deep-zone exploitation at Santa Fe Springs resulted in the completion of 21 wells during the past week with the result that field production is again headed upward following the substantial decline which set in during the latter part of July, and a check of development work indicates the probable completion of many more wells during the next 30 days. The O'Connell zone, which has shown evidence of depletion for several weeks, will continue to be an important factor in field production for some time to come and while it will yield large wells progressive operators are nevertheless already making extensive plans to develop the underlying Clarke horizons. Most of the wells now under way have the O'Connell zone as their objective and will accordingly be finished in that horizon. Some of course will be carried on down into the Clarke or deeper zones but as a rule operators for the most part anticipate better success with new holes. Completions in the Clarke zone up to the present time have only been partially satisfactory as most of these projects have been located at some distance from the apex of the structure. Correlation work indicates the probability, however, that substantial production may be anticipated on top of the structure and companies holding favorably-located acreage have already finished tentative development programs for future work. The Union Oil Co., discoverer of the Santa Fe Springs Field and holding considerable acreage on top of the structure, is starting 10 new wells in addition to a pioneer hole which was originally scheduled for completion in the O'Connell zone. The Shell company is making preparations to start 15 new holes, which will have the Clarke or deeper zones for their objective, and rigs for several of these on the Golay and Slusher leases are already in course of construction. Shell crews will probably begin making hole on these projects within the next few weeks. The Texas Company is also starting several projected deep-zone wells and it is quite likely that the Standard will follow suit although no definite announcement has been made in this regard. The General Petroleum is leading the way as far as Clarke zone development is concerned as this company already has about 10 projects under way. The St. Helens Petroleum has just started work on a new well on the Hill lease which will be carried down to the Clarke zone with as little delay as possible. The Richfield Oil Co., Wilshire and affiliated companies are also expected to initiate deep-zone development shortly.

Deep-zone development involving the Clarke and other underlying horizons should become an important factor in field production along around the latter part of the current year and it is quite probable that this work will extend well over into 1930. These 8,000-foot holes will average around six months from spud to completion and with August half gone it is quite obvious that new wells started from now on cannot possibly be completed much before the end of the year. There has been a noticeable tendency during the past week or two for operators to revise their development program and it may be possible that additional wells now scheduled for completion in the O'Connell zone will be carried on down into the Clarke horizon in which event deep-zone production will be quite conspicuous before the present year draws to a close. This is particularly true of projects rotating ahead above the 5,000-foot level as operators above this point can still land pipe sufficiently large enough to permit deeper drilling. It is the general consensus of opinion that although the horizons below the O'Connell zone are potentially capable of yielding large wells production from these deeper sands will probably not cause any violent fluctuation in field production. Even with unregulated development these wells will probably not prove unusually disturbing. The mechanical difficulties encountered in deep drilling and probable success of the gas conservation law will probably retard development with the result that drilling operations will extend over a longer period. There is the probability also that fewer wells will be drilled into the Clarke zone due to the fact that many lots in the town lot section are not sufficiently large enough to permit the erection of an additional derrick.

The Union Oil Co., the largest single producer in the Santa Fe Springs Field at the present time with a daily output of 60,000 bbls., chalked up four new wells during the past week and is preparing several more for early completion. The Union's latest acquisition to its list of producers is No. 46 Bell, which was brought in flowing 4,500 bbls. per day from 6,850 feet. No. 14 Farwell, which preceded this well into production, started off flowing 3,400 bbls. daily from the O'Connell zone at 6,850 feet, but it built up the following day to 8,055 bbls. and may show a still further increase. No. 12 Howard, the first completion listed during the current week, tanked 3,500 bbls. during the initial 24-hour test from the O'Connell zone at 6,860 feet. No. 44 Bell, which the Union finished late in the week, started off flowing 3,000 bbls. per day from 6,860 feet but will probably show a substantial increase next week. The Texas Company put three wells on production during the past week and incidentally increased its daily output 9,297 bbls. No. 5 Weaver was good for 2,560 bbls. daily from 6,846 feet, No. 6 Foix 2,664 bbls. per day from 6,860 feet. No. 2 Lamb, which was completed in the Clarke zone, showed an initial of 4,075 bbls. per day from 7,990 feet. The Superior Oil Co. finished a good O'Connell zone producer this week when No. 6 Wardman was brought in doing 5,255 bbls. initially from 6,836 feet and preparations are under way to complete a second well on the same lease some time within the next few days. The Standard finished two wells in the Clarke zone this week and both of them, No. 7 Hepler and No. 12 Santa Gertrudes, showed favorable production. The former tanked 3,230 bbls. daily from 8,052 feet while the latter started off flowing 2,550 bbls. from 8,004 feet. The General Petroleum headed the completion list this week by finishing five wells which showed an aggregate initial daily production of 15,863 bbls. No. 145-B Santa Fe was returned to production a few days ago flowing 2,370 bbls. daily after being redrilled and deepened to the O'Connell zone at 6,918 feet. No. 232 Santa Fe, which preceded this well into production, was good for 2,245 bbls. from the Clarke zone at 7,945 feet. No. 143 Santa Fe was another satisfactory producer as it tanked 5,860 bbls. in the first 24 hours following completion in the O'Connell zone at 6,839 feet. No. 152-F Santa Fe, which followed this project, was good for 2,980 bbls. daily from the O'Connell zone at 6,920 feet, while No. 161-B Santa Fe started off flowing 2,418 bbls. per day from the upper O'Connell zone at 6,328 feet.

George F. Getty finished two new wells in the deep O'Connell zone this week but neither registered substantial production. No. 19 O'Connell tanked 1,600 bbls. daily from 6,752 feet, while No. 31 Biddle started off doing 1,020 bbls. from 7,060 feet. The Wilshire Oil Co. successfully recompleted two former upper-zone producers after redrilling and deepening them to the lower horizon. No. 2-A Peterson started off flowing 2,914 bbls. initially from 7,200 feet, while No. 6 Baker made 2,245 bbls. from 7,985 feet. The Shell listed one new well, No. 13 Slusher, which made 660 bbls. from the Clarke zone at 6,844 feet. The Universal Consolidated Oil Co. recompleted No. 4 O'Connell a few days ago flowing 3,040 bbls. initially from 7,936 feet. The Richfield Oil Co. and a group of Los Angeles and San Francisco capitalists have just purchased controlling interest in Universal Consolidated Oil Co., formerly owned by Crocker interests in San Francisco. Roy N. Bishop, president of Universal and an associate of the Crockers, will resign and his place will be taken by Mr. Talbot, chairman of the board of the Richfield Oil Co. Richfield execu-

TANKER SHIPMENTS FROM LOS ANGELES TO ATLANTIC AND GULF COAST PORTS

Commodity—	Total this week	Daily average	Total last week	Daily average	This year to date	Same time last year
Crude oil	117,415	16,774	.....	.....	397,250	2,565,422
Fuel oil	.....	.....	.....	.....	49,950	111,621
Diesel and gas oil	150,892	21,556	71,092	10,156	1,210,934	1,298,602
Gasoline	507,443	72,492	604,278	86,325	13,232,264	8,183,095
Naphtha distillate	.....	.....	.....	.....	31,750	171,250
Coastwise—						
Crude oil	549,411	78,487	887,473	126,782	15,855,865	15,324,960
Fuel oil	206,181	29,454	439,622	62,803	13,138,115	10,579,729
Diesel and gas oil	15,083	2,155	.....	.....	757,052	742,662
Gasoline	192,090	27,441	299,732	42,819	6,997,135	5,327,329
Kerosene	8,573	1,225	.....	.....	48,155	52,884
Naphtha distillate	.....	.....	.....	.....	.....	171,566
Exports—						
Crude oil	197,811	28,259	194,657	27,808	3,632,848	1,441,771
Fuel oil	512,171	43,167	229,889	32,841	11,900,500	15,101,824
Diesel and gas oil	144,250	20,607	.....	.....	1,624,456	1,744,409
Gasoline	274,867	39,267	341,987	48,855	7,075,100	4,221,524
Kerosene	86,338	12,334	.....	.....	2,015,716	2,738,144

TANKER SHIPMENTS FROM SAN FRANCISCO TO ATLANTIC, GULF COAST PORTS

Diesel and gas oil	.....	.....	.....	.....	.....	342,425
Gasoline	81,560	11,651	.....	.....	1,346,502	1,357,567
Lubricants	.....	.....	.....	.....	69,172	277,161
Coastwise—						
Fuel oil	.....	.....	44,510	6,359	1,787,253	2,566,631
Diesel and gas oil	.....	.....	8,518	1,217	334,753	169,039
Gasoline	65,560	9,366	161,167	23,024	3,196,369	3,033,428
Kerosene	4,960	709	6,630	947	96,996	163,795
Exports—						
Crude oil	.....	.....	.....	.....	121,603	85,935
Fuel oil	.....	.....	.....	.....	529,011	1,566,766
Diesel and gas oil	58,380	8,340	.....	.....	213,854	10,400
Gasoline	127,550	18,221	140,060	20,009	3,716,870	3,006,429
Kerosene	5,033	719	.....	.....	387,450	362,852
Lubricants	1,314	173	.....	.....	23,113	11,400

EIGHT WELLS, DRY HOLE AND THREE LOCATIONS ARE MUSKEGON'S RECORD

By Special Correspondent

MUSKEGON, Mich., Aug. 19.—Eight oil wells, a dry hole and three new locations comprise the record of the Muskegon oil field for the last week. Of the eight wells, four were successful completions in the Dundee pay sands in Muskegon Township, three were Dundee producers in Laketon Township and one Laketon well made commercial production in the upper Traverse pay sands. The one dry hole was on the south edge of the field on the Muskegon river flats.

The largest of the new wells was the Fleeger-Ohlson Association's No. 1 Henry Dykstra, NW SE Section 12-10-17, Laketon Township. It made about 800 bbls. initial in the Dundee pay sands at 2,031 and 2,035 feet. Nelson & Witt, Inc., brought in a 600-bbl. initial producer in the Dundee in the Charles B. Horton No. 2, NE SE Section 11-10-17. Pay sands were at 2,056 to 2,062 feet.

Witt and Wyant, associated Muskegon operators, got two wells, one in the upper Traverse and the other in the Dundee, on the Alfred H. Fenner lease. The Dundee well is in the SW SE Section 11-10-17, and made about 300 bbls. of oil and 1,000,000 cubic feet. It was the No. 4 Fenner. Pay sands were from 2,066 to 2,068 feet. The partners' No. 5 Alfred H. Fenner, NW SW Section 11-10-17, came in for 50 bbls. a day on the pump in the upper Traverse with pay sands from 1,683 to 1,700 feet.

The largest new well in the Muskegon Township area of the field is the No. 3 Torrent estate well on the bank of the Muskegon River, owned by the Muskegon Oil Corp., the Ottawa Petroleum Corp. and the Crude Oil Co. of Michigan. The well, which is in the NE SW Section 8-10-16, made about 500 bbls. initial in pay sands of the Dundee at 2,037 to 2,041 feet.

John R. Cox and others, of Grand Rapids, got a 350-bbl. initial producer on the John B. Nichols lease of the Lake Shore Petroleum Co., SE NW Section 8-10-16, also on the river bank. Pay sands were encountered from 2,041 to 2,053 feet. The Swastika Oil & Gas Co.'s No. 1 Andrew Luinstra, SW SE Section 6-10-16, Muskegon Township, had to be tubed for completion as a 100-bbl. initial producer in the Dundee pay sands at 2,039 to 2,051 feet. The Concord Oil & Gas Co.'s No. 2 Charles I. Giles, NE NW Section 7-10-16, made 25 bbls. in pay sands at 2,020 to 2,030 feet.

The Puritan Oil Corp.'s No. 1 E. F. Plunkett, SE SE Section 8-10-16, on the Muskegon River flats, SE SE Section 8-10-16, had a show of gas in the Dundee at 1,989 to 1,994 feet, water at 1,995 feet and a big dose of water at 2,020 feet. It will be plugged.

The three new locations in Laketon Township are as follows: Fleeger-Ohlson

(Continued on Page 126)

THE ROMANCE OF OIL

(Number Six of a Series)

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tive officers will take the place of Crocker interests on the board and will be in executive charge. Edward Stearns, long associated with Universal and Crocker interests, will remain in charge of the company's field operations. Universal Consolidated is one of the oldest producing companies in California, having started operations in Lost Hills in 1910. Later operations were extended to other fields, notably Santa Fe Springs. The original Lost Hills property has been a consistent producer for over 20 years and, with the new discoveries in Kettleman, interest in deep sands at Lost Hills makes Universal's fee holdings there potentially valuable.

Elwood

The Elwood Field of Santa Barbara County showed an abnormal drop in production during the past week but this was due to the fact that the Barnsdall and Rio Grande arbitrarily shut in No. 5 Bell Luton in order to reduce excess production of natural gas. This well was yielding approximately 10,000 000 feet of natural gas and about 2.000 bbls. of crude oil at the time it was shut in. The Barnsdall and Rio Grande are to be commended for shutting in this well as the high gas-oil ratio was not especially conducive to maximum efficiency. Field production dropped with the shutting in of this well but this temporary decline will be more than offset by a larger ultimate production. One of the most important developments in the Elwood Field was the coring of several lenses of oil sand in No. 5 Doty, which has been carried down into Sespe formation which underlies the present productive Vaqueros. The importance which attaches to this deep test now being drilled by the Barnsdall and Rio Grande lies in the fact that if Sespe production is secured it will substantially increase the ultimate production of this field.

The possibility of getting commercial production in the Sespe formation on top of the structure is problematical but it is the general consensus of opinion that this may ultimately become an eventuality. The Barnsdall actually cored oil sand in the Sespe formation previous to the abandonment of No. 1 Elwood Acres, which was located off structure, and it is therefore not at all improbable that this zone may prove commercially productive on the apex of the structure. No. 1 Elwood Acres, incidentally, was located approximately 1 mile east of the discovery well and was just beyond the commercially productive limits as the oil sand found in the Vaqueros was likewise unproductive. The next 30 days will probably determine the status of the Sespe formation as the Barnsdall will probably make a production test some time during this period if developments warrant, although the well will be shut in immediately upon completion.

Tideland development at Elwood is progressing at a rapid rate and it is quite likely that the Pacific Western will top the present productive Vaqueros horizon within the next two weeks as this company's initial tideland project is already down below 1,600 feet The Barnsdall and Rio Grande are expected to spud in their initial tideland project within the next 15 days. These two companies, which discovered and are jointly developing the Elwood Field, are temporarily abandoning drilling activities in the eastern end of the structure and will concentrate future work on tideland development where several offsets are being prepared for early work. No. 8 Bell in the east end of the structure has been drilled down to the top of the Vaqueros and a 10¾-inch water string landed at 3,319 feet. This well will not be drilled into completion for the present in as much as it is in proven territory and not subjected to outside drainage. The derrick and rotary drilling equipment have accordingly been removed and this is being transferred to the company's tideland property where an early spud in the initial undertaking is anticipated. The importance of concentrating development work along the ocean front is quite obvious because the eastern end of the structure is free of outside drainage whereas the western portion of the Barnsdall and Rio Grande's holdings fronting on the ocean will require competitive drilling due to tideland development by the Bankline, Elwood Exploration Co., Honolulu Consolidated and Pacific Western Oil Co. All of these companies have constructed wharves out into the open ocean and are rushing work ahead as quickly as possible in order to participate in flush production with as little delay as possible.

Ventura Avenue

Two new wells were put on production in the Ventura Avenue Field during the past week and a check of development work indicates the probable completion of several more soon. The Associated successfully completed No. 67 Lloyd flowing 1,720 bbls. and 1,900,000 feet of wet gas daily from 7,512 feet and the M. K. & T. Oil Co. followed suit by putting No. 1 Percy on a production test at 7,751 feet. The output of the latter, 545 bbls. daily, is still showing an excessive water cut, however, and may require further work. The gas conservation law will probably reduce the daily output of the Ventura Avenue Field to a substantial extent shortly after September 1 and may possibly also retard future development work unless some method is devised for disposing of additional gas production. The Rincon Field, located on the western extremity of the Ventura Avenue anticline, has just closed another quiet week and this district will probably remain in status quo for some time to come as the Richfield Oil Co.'s deep test is hung up with a fishing job at 7,449 feet. About the only point of interest in this field are the preparations being made by the General Petroleum to engage in tideland development out beyond the shore line in the near future.

The recently discovered Santa Barbara Field is apparently passing out of the picture with as little delay as possible and unless something of importance is discovered by the Olympic Oil & Refining Co. in the extreme eastern part of the field or an extension located west of present development, this field will soon sease to even warrant comment. Drilling operations have been suspended practically entirely and the two or three wells completed since discovery have been shut in due to water trouble and other unfavorable factors. The Lincoln Drilling Co.'s deep zone discovery in the shallow Summerland Field of Santa Barbara County is pumping 255 bbls. of clean 19.1 gravity oil daily from 1,417 feet and it is quite probable that a second producer will be completed in this area within the next thirty days. George F. Getty is already down below 750 feet in No. 1 Becker fee, located a short distance from the Lincoln Drilling Co.'s discovery, No. 1 Williams, and should top the pay soon. The oil produced in the recently discovered second zone is of a much better quality than the gravity would indicate and will probably stimulate additional development if state production of crude oil is substantially reduced by the new gas law.

Midway-Sunset

Several new wells were started out in the Maricopa Flats section of the Midway-Sunset Field during the past week and more are expected to get under way soon. The Hancock Oil Co. spudded in No. 1 Wallace in Section 8-11-23 and has started rig construction for three others on the same property. The North American, which completed No. 1 Lincoln early in the week doing 450 bbls. daily from 2,366 feet, subsequently spudded in No. 2 Barrett in Section 8-11-23 and has two new rigs going up on the Kerckhoff lease, one of which should be spudded in some time during the next two weeks. The company's No. 1 Bronco tested wet a few days ago at 3.338 feet and will require further work. The Signal Oil & Gas Co., which focused the attention of operators on this area last December, should have No. 4 Sheehan on production in the near future and expects to spud No. 5 shortly thereafter. The Standard Oil Co. is making good progress with Nos. 1 and 2 on the Graham lease, located approximately one-half mile west of the discovery well, and both should be tanking oil shortly. The Birch Oil Co. and the California Western Oil Co. are both being delayed with water trouble but are expected to remedy this condition within the next few weeks.

Drilling operations in the Mount Poso Field of Kern County are progressing satisfactorily and several new wells should be completed within the next 15 days. The Union Oil Co. has two wells on the Sarrett & Mack property nearing completion and a like number standing cemented in the oil sand on the Tribe property. Two more holes are being rigged up preparatory to an early spud

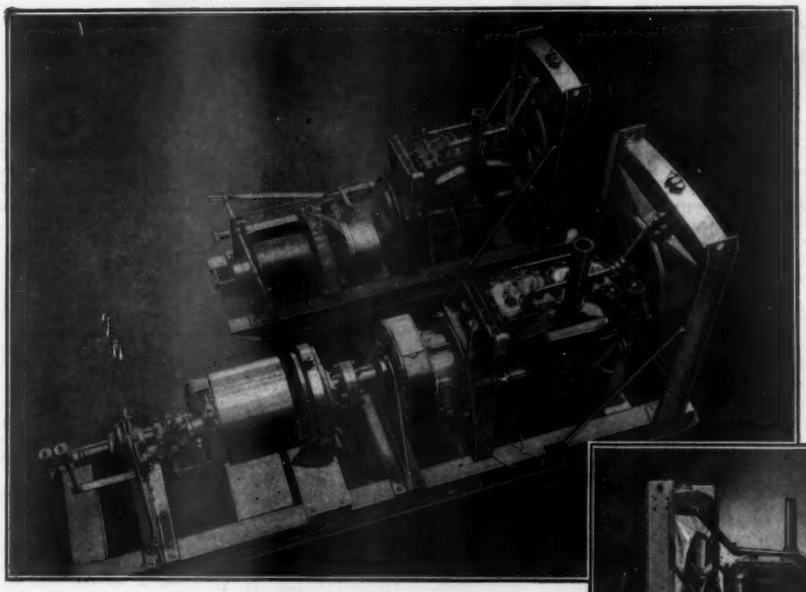
(Continued on Page 124)

IMPORTANT NORTHERN CALIFORNIA WILDCATS

Company, well, location—	S-T-R	Depth	Status
Standard, No. 5-9 Saticoy, Ventura Co.	10- 2-22	7,585	reaming
American Oil Co., No. 1 Camarillo, Ventura Co.	33- 2-20	1,208	suspended
Bolsa Chica, No. 1-A Temescal, Ventura Co.	4- 4-18	752	br. sh. drilling
Associated, No. 1 Rincon, Ventura Co.	19- 4-24	.....	grading
Miley, E. J. No. 2 Red Mountain, Ventura Co.	7- 3-23	1,675	hd. sd. drilling
Shell, No. 1 Simi, Ventura Co.	31- 3-17	3,425	hd. sd. drilling
Continental, No. 1 Sulphur Mountain, Ventura Co.	21- 4-22	3,765	suspended
Continental, No. 2 Sulphur Mountain, Ventura Co.	22- 4-22	6,740	suspended
Continental, No. 3 Sulphur Mountain, Ventura Co.	21- 4-22	2,240	br. sh. drilling
Lockwood Oil Co., Well No. 1, Ventura Co.	28- 8-21	271	sd. sh. drilling
Milham Expltn., No. 1-A Buttonwillow, Kern Co.	8-28-23	4,662	gas well, idle
Milham Expltn., No. 2 Buttonwillow, Kern Co.	8-28-23	2,730	gas well, idle
Milham Expltn., No. 3 Buttonwillow, Kern Co.	8-28-23	2,694	gas well, idle
Milham Expltn., No. 4 Buttonwillow, Kern Co.	6-28-23	2,670	gas well, idle
Milham Expltn., No. 5 Buttonwillow, Kern Co.	5-28-23	2,500	gas well, idle
Milham Expltn., No. 6 Buttonwillow, Kern Co.	8-28-23	2,676	gas well, idle
Milham Expltn., No. 7 Buttonwillow, Kern Co.	6-28-23	2,720	suspended
Milham Expltn., No. 8-A Buttonwillow, Kern Co.	8-28-23	2,673	gas well, idle
Milham Expltn., No. 9 Buttonwillow, Kern Co.	8-28-23	2,400	deep test
Milham Expltn., No. 10 Buttonwillow, Kern Co.	8-28-23	2,672	suspended
Lincoln Drlg. Co., No. 1 Buttonwillow, Kern Co.	6-28-23	190	suspended
Richfield Oil Co., No. 2 Semitropic, Kern Co.	36-27-23	7,618	suspended
Elmer Oil Co., No. 1 Bena, Kern Co.	15-30-30	3,000	resume work
Elmer Oil Co., No. 1-A Rosedale, Kern Co.	33-29-26	4,040	sd. sh. drilling
Taft Drlg. Co., No. 1 Union Avenue, Kern Co.	2-30-27	4,505	sd. sh. drilling
The Texas Company, No. 1 Edison, Kern Co.	23-29-29	.....	grading
Symark Oil Co., No. 1 Edison, Kern Co.	24-29-29	1,250	hd. sd. drilling
Heyd, Frank, No. 1 Edison, Kern Co.	26-29-28	.....	material
Shell Oil Co., No. 1 Lerdo, Kern Co.	5-29-27	4,190	recemented
General Pet., No. 1 McFarland, Kern Co.	25-26-25	6,014	br. sh. drilling
Union, No. 2 San Emidio, Kern Co.	5-10-21	3,670	suspended
Currency Pet. Co., No. 1 Jacalitos, Fresno Co.	28-21-14	2,302	rebuild rig
Currency Pet. Co., No. 2 Jacalitos, Fresno Co.	14-21-14	350	suspended
Hornaday & Huggins, No. 1 Kerman, Fresno Co.	32-14-18	4,024	sd. sh. drilling
Shell, No. 6 Westhaven, Fresno Co.	6-20-18	1,910	coring
Shell, No. 7 Westhaven, Fresno Co.	6-20-18	1,120	survey hole
Cates Oil Co., No. 1 Joaquin Ridge, Fresno Co.	7-19-15	114	suspended
Oceanside Oil Co., No. 1 Krayenhagan, Fresno Co.	33-22-17	738	redrilling
Petroleum Securities, No. 1 Kerman, Fresno Co.	20-20-16	695	sd. sh. drilling
Petroleum Securities, No. 2 Kerman, Fresno Co.	28-20-16	5,120	sd. sh. drilling
Pismo Dome Oil Co., No. 1 Pismo, San Luis Obispo Co.	5-32-13	1,120	cleaning out
Union, No. 1 Huasna, San Luis Obispo Co.	34-32-15	3,700	redrilling
Union, No. 1 North Huasna, San Luis Obispo Co.	12-32-14	3,795	br. sh. drilling
Midwest Refining Co., No. 1 Huasna, San Luis Obispo Co.	34-31-15	2,025	fishing
Panorama Oil Co., Well No. 1, San Luis Obispo Co.	7-31-21	4,000	br. sh. drilling
Paso Robles Snyd., No. 1 Paso Robles, San Luis Obispo Co.	27-27-11	2,840	br. sh. drilling
Shell, No. 5 Guadalupe, Santa Barbara Co.	25-10-35	1,994	hd. sd. drilling
Petroleum Securities, No. 1 Goleta, Santa Barbara Co.	.....	4,071	sd. sh. drilling
Union, No. 1 Buel Canyon, Santa Barbara Co.	X- 7-31	1,806	br. sh. drilling
O'Neil, L. B., No. 1 Los Alamos, Santa Barbara Co.	26- 8-33	2,960	sd. sh. drilling
Western Gulf, No. 1 Gaviota, Santa Barbara Co.	X- 5-33	3,420	sd. sh. drilling
Richfield, No. 1 Point Conception, Santa Barbara Co.	X- 5-35	.....	location
Standard, No. 1 Point Conception, Santa Barbara Co.	X- 5-34	2,428	idle, litigation
Standard, No. 1 Point Arguello, Santa Barbara Co.	35- 6-36	318	sd. sh. drilling
Gaviota Oil Co., No. 1 Lompoc, Santa Barbara Co.	9- 7-35	Rig	rigging up
Barnsdall, No. 3 Goleta, Santa Barbara Co.	1- 4-30	2,250	sd. sh. drilling
General Pet., No. 1 Goleta, Santa Barbara Co.	21- 4-28	4,533	gas blowout
General Pet., No. 1 Orella, Santa Barbara Co.	5- 4-30	140	sd. drilling
Shell, No. 1 Orella, Santa Barbara Co.	36- 5-31	5,488	sd. sh. drilling
Pacific Western, No. 1 Naples, Santa Barbara Co.	7- 4-29	3,960	rd. sd. drilling
System Oil Co., No. 1 Orcutt, Santa Barbara Co.	36-10-34	4,260	oil sand
Keystone Oil Co., No. 1 Santa Maria, Santa Barbara Co.	33-10-34	1,411	sd. sh. drilling
Wildcat Oil Co., No. 1 Santa Maria, Santa Barbara Co.	20-10-35	1,620	sd. sh. drilling
Keystone Oil Co., No. 1 Surf, Santa Barbara Co.	18- 7-35	2,000	sd. sh. drilling
Channel Oil Co., Well No. 1, Santa Barbara Co.	29- 4-27	6,304	suspended
Channel Oil Co., No. 1 Fellowship, Santa Barbara Co.	29- 4-27	1,550	sespe, drilling
Pacific Western, No. 1 Gibralter, Santa Barbara Co.	14- 5-27	.....	building road
Continental, No. 1 Carpenteria, Santa Barbara Co.	33- 4-25	4,130	gas well
Continental, No. 2 Carpenteria, Santa Barbara Co.	33- 4-25	4,580	rebuild rig
Colusa Oil Co., Well No. 1, Colusa Co.	31-15- 4	625	hd. sd. drilling
North Counties Oil Co., Well No. 2, Humboldt Co.	36- 2- 1	2,205	suspended
Humboldt Oil Co., Well No. 1, Humboldt Co.	6- 2- 1	3,041	suspended
Applegate & Renshaw, Well No. 1, Merced Co.	24- 6-10	3,750	suspended
Kuhns, H. L., Well No. 1, Merced Co.	8-12-19	660	suspended
Foster & Hammil, Well No. 1, Alameda Co.	21- 3- 3	1,146	hd. sd. drilling
Calhoma Oil Co., No. 1 Livermore, Alameda Co.	9- 3- 3	1,549	suspended
Shell, No. 1 Dudley, Monterey Co.	15-22- 9	3,790	gr. sd. drilling
Union, No. 1 San Lucas, Monterey Co.	8-22- 8	1,560	hd. sd. drilling
Standard, No. 1 King City, Monterey Co.	33-22- 7	516	sd. sh. drilling
Marland, No. 1 Bradley, Monterey Co.	32-24-11	5,955	suspended
Tuck Oil Co., No. 1 Los Gatos, Santa Clara Co.	15- 8- 1	852	suspended
Pet. Sec., No. 1 Rich Grove, Tulare Co.	22-24-27	Rig	rigging up
Dudley Ridge Synd., No. 1 Tulare, Kings Co.	12-23-19	1,305	gas, shut in
Porter, H. B., No. 1 Devils Den, Kings Co.	9-24-17	230	sd. drilling
O'Donnell, J. E., No. 1 Tulare, Kings Co.	7-23-20	Rig	suspended
Associates Pet., No. 1 Lewis Creek, San Benito Co.	5-19-10	501	suspended
Twin States Oil Co., No. 1 Soldani, Mendocino Co.	14-12- 7	698	hd. sd. drilling

IMPORTANT SOUTHERN CALIFORNIA WILDCATS

The Texas Company, No. 1 Clearwater, Los Angeles Co.	8- 4-12	4,511	sd. sh. drilling
Standard, No. 1 Hawthorne, Los Angeles Co.	5- 3-14	6,740	gr. sd. drilling
Hummel, Joseph, No. 1 Redondo, Los Angeles Co.	28- 3-14	.....	location
Ohio Oil Co., No. 1 Del Rey, Los Angeles Co.	21- 2-15	2,914	hd. sd. drilling
Jackson, R. W., No. 1 Whittier, Los Angeles Co.	19- 2-11	1,447	suspended
Burlingham Pet. Co., No. 1 Compton, Los Angeles Co.	17- 3-13	2,204	cleaning out
Lee & Brainerd, No. 1 Rosecrans, Los Angeles Co.	17- 3-13	Rig	suspended
Johnson, D. W., No. 1 Compton, Los Angeles Co.	21- 3-13	.....	foundation
Hanners, George, No. 1 Watts, Los Angeles Co.	8- 3-13	Rig	rigging up
Jackson, R. B., No. 1 Watts, Los Angeles Co.	8- 3-13	Rig	suspended
Calif. Well Drlg. Co., No. 1 Compton, Los Angeles Co.	11- 4-13	7,662	fishing
Hansen, N. J., No. 1 Watson, Los Angeles Co.	17- 4-13	Rig	suspended
Pugh Miller Drlg. Co., No. 1 Calabasas, Los Angeles Co.	6- 1-17	2,550	suspended
Russell Oil Co., No. 2 Joughin, Los Angeles Co.	25- 3-17	1,868	br. sh. drilling
Pomona Oil Co., Well No. 1, Los Angeles Co.	32- 1- 5	1,220	set pipe
Anchor Oil Co., No. 1 Puente, Los Angeles Co.	19- 2-10	4,820	suspended
Rucker, R. C., No. 1 Puente, Los Angeles Co.	27- 2-10	2,050	gr. sd. drilling
Urmi Oil Co., No. 1 Puente, Los Angeles Co.	31- 2- 8	775	redrilling
Prairie Oil Co., No. 1 Montebello, Los Angeles Co.	32- 1-12	5,000	gr. sd. drilling
Monterey Park, No. 1 Jepson, Los Angeles Co.	25- 1-12	5,096	gr. sd. drilling
West, L. M., No. 1 El Monte, Los Angeles Co.	16- 1-11	633	sd. sh. drilling
Union Oil Co., No. 1 Richfield, Los Angeles Co.	13- 3- 9	814	hd. sd. drilling
Southwestern Drlg. Co., No. 1 Richfield, Los Angeles Co.	21- 3- 9	5,777	cemented
Queen, J. M., No. 1 Newhall, Los Angeles Co.	22- 3-16	230	suspended
Anderson, P. B., No. 1 Hasley Canyon, Los Angeles Co.	1- 3-16	553	set pipe
So. Calif. Drlg. Co., No. 1 Newhall, Los Angeles Co.	13- 3-16	1,384	cemented
Shell, No. 1 Coyote, Orange Co.	28- 3-10	4,880	sd. sh. drilling
Beard, G. F., No. 1 Brea Canyon, Orange Co.	30- 2- 9	930	cleaning out
Mesa Pet., No. 1 Newport, Orange Co.	21- 6-10	4,925	gr. sd. drilling
Oil Well Eng. Co., No. 1 Newport, Orange Co.	21- 6-10	2,805	suspended
Hall Pet. Co., No. 1-A Murrietta, Riverside Co.	23- 7- 3	Rig	rigging up
Hemet Pet. Co., No. 1 Ward, Riverside Co.	9- 5- 1	3,398	hd. sd. drilling
Imperial Valley Oil Co., Well No. 1, Imperial Co.	32-11-10	2,980	cleaning out
Davenport O. & G. Co., No. 1 San Marcos, San Diego Co.	30-12- 8	847	suspended
Turner, S. S., No. 1 Escondido, San Diego Co.	25-12- 2	3,045	sd. sh. drilling



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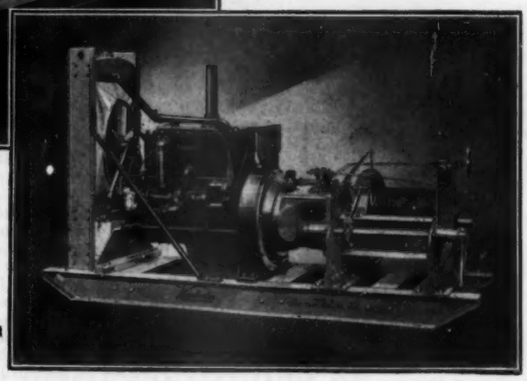

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961

~ ~ WAUKESHA ENGINES ~ ~

Much Activity in Western Illinois

Development Work in Central West on the Increase, With St. Clair County, Illinois, Shallow Area the Most Interesting

By Whit

Staff Correspondent, Central West Fields

FINDLAY, Ohio, Aug. 17.—Development work is picking up in some parts of the Central West Field, especially in the western portion of Illinois, where a great number of the shallow wells are due for completions within a very short time.

The Gibsonburg Oil Co.'s No. 2 Edith Fought, in the NE of Section 11, Washington Township, Sandusky County, Ohio, is good for 35 bbls., from the Trenton at a total depth of 1,337 feet, or 53 feet in the sand. No. 1, recently drilled on the same lease, produced an initial of 50 bbls.

Down around Lima, Ohio, in Allen County, Bath Township, C. A. and F. J. Peavey's test on the Cyrus Hoover farm, known on the oil map as the Elmer D. West farm, in Section 24, is credited with a production of 20 bbls. the first 24 hours at a total depth of 1,369 feet, or 34 feet in the Trenton. Neely & Nolan's No. 6 on the Philo Bassett farm, in the SW Section 12, same township, topped the Trenton at 1,311 feet and at 56 feet in the sand, total depth of 1,367 feet, pumped 15 bbls. In Marion Township, same county, Alva Spencer and others' No. 4, John Lucius farm, in the SW Section 10, pumped 5 bbls. Sand was topped at 1,212 feet and drilled 42 feet into the sand.

Plan Wildcats in Seneca County

Seneca County is coming to the front again with much wildcatting planned in various areas of the county. Geyer & Shaull, Tiffin operators, have what shows for a fair producer in a test on the Joseph Serr farm, east of Tiffin, which has stirred up another leasing campaign. It will be a few days before the real value of the find will be known. It is somewhat in advance of previous developments. Geyer & Shaull have secured a good sized block of acreage and if the initial well proves a commercial one will do a lot of development work. Reed Township, to the east of Tiffin is now getting the big lease play due to the oil showing on the Serr lease. C. S. Ringle of Willard, Ohio, as trustee of the Ringle Development Co., has taken leases on about 1,000 acres in the township, and development work will start as soon as tools and other materials can be moved to locations.

The Columbus-Tiffin Oil Co.'s No. 2, M. Jacobs farm, in the SE Section 7, Jackson Township, Seneca County, topped the Trenton at 1,199 feet and at 29 feet in the sand produced 5 bbls. the first 24 hours. In Liberty Township, Seneca County, Charles Bell and others' test in the NE cor. of the C. and O. Ewalt farm, in the SE Section 36, struck a flow of gas in the Clinton sand, but drilled down to the Trenton, which was topped at 1,442 feet and went 101 feet in the sand to a total depth of 1,543 feet with no oil showing. The well will be filled up to the Clinton and will be utilized as a gas producer. The Ohio Oil Co. is drilling a test on the C. Yingling farm, Section 6, Clinton Township, same county.

CENTRAL OHIO

In the Central Ohio fields since the last review, a total of 21 wells were completed, of which 5 were producers with an initial production of 152 bbls., 7 dry holes and 9 gas wells. In new work starting during the week there were 10 locations made and 34 wells are rigging up or drilling.

In Ashland County, Green Township, the Ohio Fuel Gas Co.'s No. 1-4,719 on the C. W. Long farm, Section 24, is a fair gas producer. M. and S. Burtner made a location for a second test on the John Obrecht farm, Section 36, Vermillion Township. In Orange Township, the Ohio Fuel Gas Co.'s No. 3-4,712 on the Ira Benner, Section 18, is a light gas producer, as is the same company's No. 1-4,722 on the John W. Gordon, Section 12. Same company is drilling No. 1-4,771 on the Ira A. Martin, Section 26, and made a location for No. 1-4,797 on the Esther Murray, Section 28. Same company is drilling No. 1-4,774 on the J. S. Huffman, Section 6, Jackson Township, and failed to find any sand in No. 1-3,620 on the James Hess, Section 30, which was dry. In Lake Township, Harry Farmer drilled a light gas well in a test on the P. J. Helbert, Section 5, at from 706-15 feet. Robinson and others completed a dry hole on the Barbara Easley, Section 9, at 624 feet, and the Preston Oil Co.'s No. 3-1,349 on the Ella A Morris, Section 5, was dry at 693-716 feet, where a broken sand was found. Considerable new work is starting in Lake Township. The Ohio Fuel Gas Co. made a location for a test on the Ella A. Morris, Sections 3 and 4, and Shetler & Shetler made a location for No. 1 on a Lake Township lot, Section 10. Davis and others are drilling No. 2 on the L. O. Chesrown, Section 3, and Curtis and others are doing the same at No. 3 on the A. C. Metcalf, Section 22. Robinson and others are drilling No. 2 on the G. M. Heffelfinger, Section 9, also drilling a test on the John Paters, Section 15.

In Mohican Township, also in Ashland County, B. Slagel drilled a duster in No. 3 on the A. and H. Metcalf, Section 21, at from 718-724 feet. There was a slight showing of oil but not of value as a commercial well. In Montgomery Township, the Kemrow Co. is drilling a test on the Joe E. Gast, Section 5, also drilling a test on the S. and J. Emmons, same section, and made a location for a test on the C. N. Hiner, Section 1, Ohio Fuel Gas Co. also made a location for a test on the Alva Shriner farm, same section.

In Medina County, Lafayette Township, the Ohio Fuel Gas Co. is drilling No. 1-4,773 on the Clara M. Jones, Section 28, and drilling No. 2-4,760 on the John Gunkelman, Section 11, Medina Township.

In Lorain County, Ridgeville Township, Dempsey and McGrath are drilling a test on the Mathias Myers, Lot 31. Ohio Gas Co. is drilling No. 1-4,776 on the Andrew Steidl, Lot 22, Carlisle Township.

McIntyre and others of Sistersville, W. Va., have 5,000 acres under lease near the town of Ashley, in Delaware County, Ohio, and are now drilling a test to feel out the Clinton lime formation which they expect to find at from 1,000-50 feet, and will drill three wells to give the large acreage a fair test. The location of the initial venture is just to the northeast of the town of Ashley. The contract work is being done by Frank Nelson, of Lima, Ohio.

In Wayne County, Congress Township, the Ohio Fuel Gas Co. found a very fair gas producer in No. 2-3,616 on the W. Clyde Fulton farm, Section 13, and drilling No. 2-3,628 on the C. J. Warner heirs farm, Section 28. Garn-Woodward Oil Co. is drilling on the Elmer Ely in Section 25, Plain Township, and Harmon & George are drilling No. 3 Robert Schmidt in Section 8, Chester Township, while in Franklin Township, Byran and others are drilling No. 3 James C. Clark in Section 18.

In Holmes County, Knox Township, I E. O'Hail failed to find any pay sand in a test on the A. W. Weimer, Section 25, and will abandon it as a dry hole.

Coshocton County failed to report any new completions. The Ohio Fuel Gas Co. made a location for a test on the Lester Pretzeno farm, Section 6, Crawford Township. Pure Oil Co. is drilling No. 3 Charles B. Anderson farm, Section 24, Pike Township, and the Hope Construction & Refining Co. made a location for No. 2 on the Perry Ashcraft farm, Sections 4 and 7, same township.

In Summitt County, Franklin Township, F. A. Brendall and others' test on the Charles Smith farm, Section 34, is a very fair gas well at a depth of 3,889-3,928 feet. Vaugh & Southern are drilling No. 6 D. E. Dustheimer, in Section 6, same township. Same parties drilled a dry hole on the Ami Goughler farm. The gas showing was too light to save. This well is in Section 16, Green Township. The log showed a stray sand at 4,109-12 feet; red sand at 4,151-90 feet, and the Clinton sand at 4,190-4,219 feet. G. W. Crouse is drilling a third test on his own farm, Section 18, Greene Township, and still working at No. 2 on the same farm.

In Licking County, Fallsburg Township, the Emerald Petroleum Co.'s No. 4 James A. Little, Section 8, is reported good for 50 bbls. initial at 2,909-61 feet. Same company made a location for No. 5 on the J. E. Martin farm, Section 10, and the Preston Oil Co. is drilling a second test on the Wayland Ashcraft farm, Section 11. In Perry Township, the Settles Oil Co.'s No. 3, on the Nellie Smith farm, produced an initial of 12 bbls. from the Berea at 590-98 feet. Sterl Brown hit an average gas volume in No. 5 on the Ethel Frost farm, Section 14, at 733-38 feet. In Hanover Township, the Ohio Fuel Gas Co. is drilling a test on the Nellie Weaver farm, Section 3, and the Hope Construction & Refining Co. is doing the same with a test on the Hester A. Evans farm, same section. In Hopewell Township, the Pure Oil Co.'s No. 4 Henry Loughman, Section 1, is reported good for 30 bbls. initial at 3,116-62 feet. In Madison Township, the Ohio Fuel Gas Co. is drilling No. 1-4,800 on the Mel vina Stasel, Section 23.

In Muskingum County, Falls Township, the Athey Drilling Co. is drilling on the John Blair farm, Section 4. Wehrle Co. is drilling deeper on the Mel R. and Etta Emler farm, Section 17, Highland Township, which at last report was at a total depth of 4,200 feet. Hope Construction & Refining Co.'s No. 8, on the W. E. Helphrey farm, Section 6, Jackson Township, pumped an initial of 35 bbls. at 2,998-3,044 feet. Crowley and others are at work on a test on the Thomas L. Cunningham farm, Section 3, Clay Township.

In Athens County, Ames Township, the Ohio Fuel Gas Co. has an average gas well in No. 1-4,745 on the J. O. Anderson farm, Section 5. Same company is drilling No. 2-4,786 on the W. A. Clester farm, Section 24, Berne Township. J. W. Young, trustee, is drilling No. 3 on the T. P. White farm, Section 14, Athens Township.

In Vinton County, Knox Township, Patton & Hultz have what looks like a dry hole in a second test on the John Martin farm, in fractional Section 3.

In Tuscarawas County, Washington Township, George Jewell and others made a location for a test on the G. H. Smith farm, in Lot 35, and W. C. Adair and others are drilling a test on the Robert McKean, Lot 21, Oxford Township.

In Stark County, Lawrence Township, the Penn Oil & Gas Co. is drilling a test on the George Seifert farm, Section 4.

In Fairfield County, Walnut Township, the Heisey Gas Co. is drilling a second test on the John J. Smith and others' farm, Section 24. City Natural Gas Workers of Lancaster, Ohio, made a location for a second test on the Charles W. Moyer farm, Section 13, Pleasants Township, same county.

In Guernsey County, Cambridge Township, the Ohio Fuel Gas Co.'s No. 1-4,738, on the Chancey Cropper farm, Sections 3 and 4, is reported at 25 bbls. Top of the lime in this well was found at 3,238 feet and oil pay at 3,368-75 feet, total depth 3,378 feet. Same company made a location for a test on the S. W. Stewart farm, Section 4, and for a test on the Chancey M. Oldham, Section 3, same township, while George Jewell and others are drilling No. 1 on the George Allhouse, Section 24. North Salem Oil & Gas Co. is drilling No. 3 on the C. and A. Gray farm, Section 11, Wheeling Township. East Ohio Gas Co. is starting a second well on the E. C. Quillan farm, Section 11.

In Belmont County, Somerset Township, Lewis and others have a light Berea sand gas well in No. 2 on the Lucretia Parkare, Section 35, at 1,791 feet. Payne and Swarthout are drilling No. 6 on the A. C. Shepherd, Section 15-21, Wayne Township, same county.

In Morgan County, Malta Township, James Bump and others drilled a dry hole on the Lecta M. Wilson farm, Section 27, in the first Cow Run sand at 289-303 feet, total depth 311 feet. Ohio Fuel Gas Co. found a light gas well in No. 2-4,781 on the C. H. Pierce farm, Sections 26-27, same township, in the low Berea sand at 1,547-67 feet, total depth 1,570 feet. In Marion Township, the Ohio Fuel Gas Co. is drilling No. 1-4,763 on the N. W. Wood farm, in fractional Section 35. W. C. McBride, Inc., drilling No. 4 on the Marion Mills, Section 26, and Bowman Oil & Gas Co., drilling No. 5 on the Alex Mingus, Section 32. Woodyard Brothers and Scott made a location for No. 5 on the Harry S. Hollowell, Section 33. Swissville Oil & Gas Co. made a location for No. 4 on the Charles A. Mendenhall farm, Section 14, Penn Township, same county, and the Penn Oil & Gas Co. is drilling No. 5 on the John Greathouse farm, Section 10. In York Township, the Hopewell Fuel & Gas Co.'s second test on the William Coulter farm, Section 22, is an average gas producer at a depth from 3,580 to 3,630 feet. In Union Township, the Patterson Oil Co. is drilling No. 22 on the Emma Patterson farm, Section 12.

INDIANA

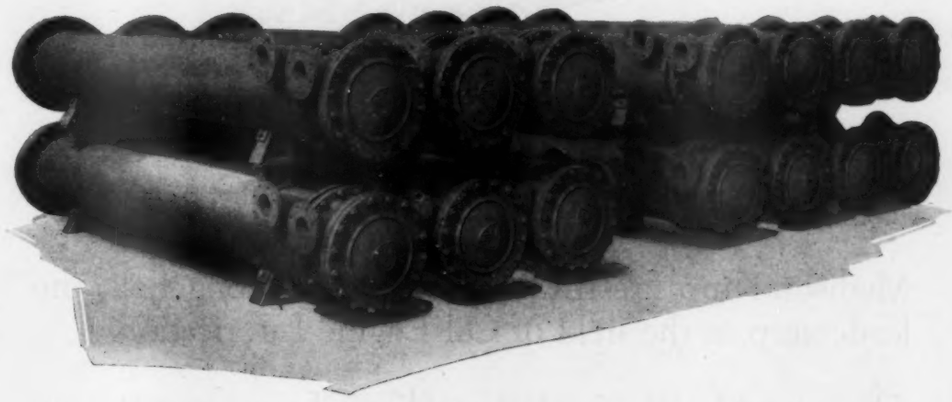
An exceptionally good well was drilled in by the Siosi Oil Corp. in the SW NW, Section 32, Prairie Creek Township, Vigo County, Indiana. This well is on the division line between the Lennis Thomas and F. I. Williams farm and produced 75 bbls. initial at a depth of 2,230 feet.

There is a revival of work in the Pike County area as more wells are under way than at any other period during the current year. In Patoka Township, the Peoples Petroleum Co.'s second test on the Alf Hurt farm, in the NW, Section 18, pumped an initial of 13 bbls. Top of sand was found at 1,158 feet and at 43 feet in the oil pay was encountered. In Washington Township, Charles G. Taliaferro, Jr.'s No. 3 on the Lew George, NW Section 29, is credited with a volume of 1,000,000 feet of gas at 1,098-1,108 feet. Same parties experienced hard luck in No. 3 on the Della Kime, in Lot 9, Clay Township, same county. The tools were lost in the hole at a depth of

(Continued on Page 121)

H. T. P.

PRECISION



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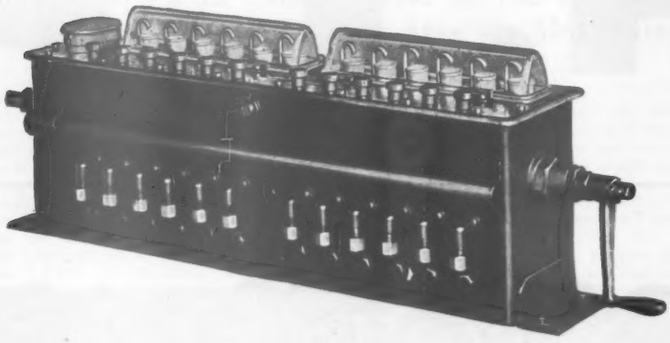

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Interest in New West Texas Areas

Schleicher, Fisher and Yates Counties Show New Oil Possibilities. Taylor-Link Area Looks Better. Winkler Potential Down

By L. E. Bredberg
Fort Worth Bureau, The Oil and Gas Journal

FORT WORTH, Tex., Aug. 19.—It has been proven several times that a test cannot be called a "duster" in West Texas until it is plugged, and this week the Phillips Petroleum Corp.'s test in Schleicher County gave further proof that this is true. This test along with three wells in the Taylor-Link area west of the Yates Pool in Pecos County, and the well drilling on the Torborg ranch in Section 539 just northwest of the Yates Pool, and the Amerada Petroleum Corp. and Roeser & Pendleton's new strike in Fisher County, caused attention to swing from one corner of the territory to the other, keeping land men, scouts, geologists and independent operators on the Jump trying to keep up with the several new interesting features which came to the surface within a period of a few days.

The latest reports from the field bring the interesting news that the second well to come in in the Taylor-Link area is much better than the discovery, as was the case in the Yates Pool, where later wells greatly surpassed the initial production of the discovery well. This second well in this new area, 18 miles west of the Yates Pool, Pecos County, is a south offset to the discovery well, in Section 31, Block 16, University Lands. It topped the pay at 1,616 feet and was shut down at 1,626 feet flowing better than 100 bbls. per hour. The discovery well was completed at a total depth of 1,628 feet from pay at 1,613 feet, only making 115 bbls. per day, and still producing around this amount.

Another good well is reported in W. A. Moncrief and others' No. 2 University in Section 13, Block 18, to the west of the Taylor-Link wells. It is drilling at 1,555 feet, flowing an estimated amount of 500 bbls. daily from a pay encountered at 1,535-51 feet. This well had about 15 000,000 feet of gas at 915 feet which was bradenheaded off, and later encountered another gas showing at 1,330 feet in lime, and the Taylor-Link's No. 2 well picked up a shallow oil pay formation from 925-30 feet and produced a considerable amount of flowing oil, but this was cased off and the hole carried on down to the present depth of 1,626 feet.

Landreth Production Co.'s No. 1 University, located 330 feet from the north and west lines of the E half of Section 13, the same section as Moncrief's well, also picked up the shallow pay and gas the latter part of last week, and the gas blowing rocks out of the hole hitting the casing and rig caused sparks which ignited the flow starting a fire which lasted for several days, but which was shot out. The estimated volume of 70,000,000 feet of gas was then brought under control. The gas was encountered at 950 feet where the well still stands.

There are four tentative locations in the strip in Section 13, Block 18, just east of Moncrief's well, and some of the acreage in this area has been changing hands at real producing prices, for the pool looks especially promising now, and other wells will no doubt be put down at once to test the small plots of acreage which the different companies own. The World Oil Co.'s No. 1 University in the NE NE, Section 13, is drilling below 850 feet, and as it is running about 30 feet higher than the discovery well to the northeast, and lies between the Moncrief well and the Taylor-Link No. 2, it will probably pick up the shallow pay and gas sand within another 80 feet and will offer another interesting item for this new area.

Avoiding Law Suits

It is understood that a vacancy strip which is claimed to run from the north to the south along the survey line which separates Blocks 16 and 18, has been filed on and that a lawsuit has been filed in regard to it, and if this is the case, it looks as if the lease owners in that area are going to experience some of the same kind of trouble as that met by some of the companies operating in the Yates Pool. Representatives of the Shell Petroleum Corp., the California Co. and the Taylor-Link Oil Co. met in Dallas on August 17 and discussed the surveys and land lines in the area, presumably with the idea of preventing controversies over the lines, and they are to meet at another date in the near future to go over the same details. Taking precautions now may prevent obnoxious bickerings and lawsuits later. The Shell Petroleum Corp. and the California Co. own the greatest amount of acreage in the vicinity of the pool, most of their holdings being north of the producing wells. The Shell's acreage comprises Sections 30, 31, 29, 28, 32, 33, 34, 35, 27 and 26, to the east of the discovery well, and the California Co.'s acreage runs to the north and west of the discovery, in Sections 12, 1, 2, 11 in Block 18.

In another part of Pecos County, it looked last week as if The Texas Company and others were to realize a commercial producer in their No. 1 Campbell in the SE Section 46, Block 10, H.&G.N. Survey, east of the Pecos Valley Pool about 3½ miles, but this week the test encountered sulphur water, and the latest report showed it drilling at 1,845 feet in lime with 200 feet of water in the hole. A pay sand was picked up about 10 days ago at 1,710 feet, and another from 1,725-30 feet, and the first swabbing yielded 65 bbls. of oil, the hole swabbing dry, but later filling part the way while standing 12 hours. This did not amount to enough at that depth so the companies deepened, hoping to pick up more pay or an increase, but so far have been disappointed.

Still another interesting well in Pecos County was George B. Morgan's No. 1 Torborg (carried on the drilling report as W. A. Moncrief's), Section 539, Arnold and Barrett Survey, located near the center of the section. Last week it picked up showings of oil at 170 and at 320 feet, and this week found another showing at 355 feet. The former showings were cased off, but after standing two hours the oil rose 200 feet in the hole. This is apparently off of the Yates Pool structure, 2 miles northwest of the nearest production of that pool, and is either showing up on the crest of a small saddle running to the northwest or is on another structure which was tested by W. A. Moncrief and others in their test in the C Section 35, Block 12, H.&G.N. Survey, 2 miles farther northwest. Another test is now drilling in between the dry hole of Moncrief and this new discovery. The new test is in the southern part of Section 36, Block 12, and will prove whether or not this structure is to produce oil in commercial quantities. The well is shut down waiting the completion of the well in Section 539.

Schleicher County Looks Better

The test of the Phillips Petroleum Corp. on the Whitten ranch was thought to be a "dud" last week when it did not show up for a producer from the pay encountered from 4,110 feet and increased at 4,147 feet, the gravity of the oil from this formation testing better than 38. But this week Schleicher County really looked as if it was due for a pool when the test encountered a new pay at 4,925 feet where it is now shut down after running 6-inch pipe to 4,915 feet. The oil from this pay is a light green in color like that found in the Kingwood Oil Co.'s No. 1 Suggs in Irion County, and it tests 35 degrees gravity (corrected). The oil found in the test in Irion was encountered at 6,775 feet.

The 8-inch casing was set in the Phillips well at 3,390 feet and 6-inch landed at 4,915 feet. A 1,000-bbl. tank has been erected with a 4-inch flow line run from the well to the tank. While running the casing and agitating the well it slopped over and after the casing was set and the hole was being cleaned out 2 800 feet of oil stood in it. It begins to look as if the name Eldorado means something to the oil industry, and that Eldorado, Tex., which is only 4 miles south of the well, would follow its namesakes of Kansas and Arkansas, and yield a producing area and experience an oil boom. If names mean anything, perhaps the name Eldorado in Schleicher County, Texas, will help make a commercial producer out of the Phillip's No. 1 Whitten.

In Fisher County

Amerada and Roeser & Pendleton's No. 1 Haugh, in Section 191, B.B.B.&C. Survey, northeastern Fisher County, is underreaming 6-inch casing, while the hole is standing full of oil. Top of the pay and total depth is 3,123 feet. This wildcat encountered the good showing of "sweet" oil last Monday, but due to open hole, which was caving badly, running casing was rather a slow job. The pay formation in this well is the same as found in the producing wells 4 miles to the south, Cranfill & Reynolds wells, and Sun Oil Co. wells.

Amerada and Roeser & Pendleton own considerable acreage, jointly, around this new discovery. All of Sections 204 and 191; all of 190 except the NE NE, Section 203, NW quarter of 192, NE quarter of 189, and the N half of the NW quarter of 189 is held by the two companies.

To the north of the World Oil Co.'s No. 1 McDowell, the A. & F. Oil Co.'s No. 1 Turner, in the NE, Section 19, Block 33, T-2-S, T.&P. Survey, Glasscock County, was finally abandoned this week at 2,507 feet after getting a hole full of sulphur water from 2,468-2,507 feet. This is the fourth test in this new area to disappoint the companies and operators holding offset and close-in acreage, and rather cuts down the possible producing limits of the new World Pool, especially on the northeast and east.

Disappointment in Irion County

A disappointment in Irion County was met in Baker & Hodges' No. 1 Tankersley which is located 1,320 feet from the south and 150 feet from west lines of Section 23, G.C.&S.F. Survey. This is an east offset to Brown & Fox's No. 1 Tankersley which is producing from pays at 1,318 feet and 1,333 feet. Total depth is 1,335 feet. The Baker & Hodge test is being abandoned at a total depth of 1,372 feet after getting a hole full of sulphur water at 1,370 feet. This defines the limits of this new area to the east, but there is plenty of untested acreage on all other sides except to the south where a 1,400-foot dry hole tested the section in that direction.

In the Pecos Valley area, Pecos County, Perren and others' No. 1 Peterson, located 50 feet from southwest and 150 feet from northwest lines of Section 34, Block 10, H.&G.N. Survey, 1 mile east of Perren and others' No. 1 Eaton which is a 15,000,000-foot gasser in Section 27, encountered a showing of gas and one-half barrel of oil from 1,785-87 feet. This looks like a possible producer, and prob-

(Continued on Page 112)

WILDCAT OPERATIONS IN WEST TEXAS

Week Ended August 19

ANDREWS COUNTY

Company, farm and location—	Remarks—
Deep Rock's No. 1 Ogden, 2,310 ft. E, 330 ft. S, Sec. 6, Blk. A-46, Public School Land	Cellar.

BORDEN COUNTY

Louisiana Oil & Ref. Co.'s No. 1 Miller, 1,320 ft. from W and 150 ft. from S line, Sec. 355, Blk. 97, H.&T.C.	Location.
Moncrief et al's No. 1 Munger, C of SW Sec. 14, Blk. 31	Spudding.
Texas & Wheeler's No. 1 Long, 1,320 ft. N and E of Sec. 27, Blk. 30, T.&P. Sur.	Top salt 1,030 ft.; drlg. 1,980 ft.

BREWSTER COUNTY

E. W. Bateman et al's No. 2 Nevill, 2,000 ft. S and W line of Sec. 62, Blk. 13, G.H.&S.A.R.R. Sur.	Drlg. 1,335 ft.
Brewster Oil Co.'s No. 1 fee, 2,640 ft. S and 2,598 ft. E of NW cor. Sec. 45, Blk. G-15, G.C.&S.F.	Fishing 1,935 ft.
Cowden & Bowser's No. 1-A Jackson & Harmon, Sec. 1, Blk. 331, T.C.R.R. Sur.	Set 8-in. 1,530 ft.; shut down 2,000 ft.
Forrest Oil Co.'s No. 1 Skinner, C SW SE Sec. 100, Blk. 2, G.C.&S.F. Sur.	Drlg. 415 ft.
J. M. Hickey's No. 1 Jackson & Harmon, NE cor. Sec. 182, Blk. 9, G.H.&S.A. Sur.	Shut down 1,302 ft.
Johnson & Weekley's No. 1 Jackson & Harmon, C Sec. 104, Blk. 10, G.H.&S.A. Sur.	Shut down 2,485 ft.
Van McPhail's No. 1 McIntyre, SE cor. Sec. 59, Blk. 352, 7 mi. S of Alpine	Shut down 1,740 ft.

COKE COUNTY

Lipan Oil Co.'s No. 1 E. C. Rawlings, Sec. 490, Blk. 1-A, H.&T.C. Sur., elev. 2,750 ft.	Cleaning out 2,870 ft.
Mid-Kansas Oil Co.'s No. 1 W. E. Lackey, 330 ft. N and E of SW cor. Sec. 272, Blk. 1-A, H.&T.C.	Pay 3,755-56 ft.; 6⅝-in. casing set 3,451 ft.; shut down 3,954 ft.
Ray E. McCamey et al's No. 1 McCutcheon, 2,300 ft. S and 785 ft. W of NE cor. of T. J. Hines Sur. No. 4	Shut down 3,520 ft.

CONCHO COUNTY

Duffy et al's No. 1 Gilliam, 1,520 ft. N and 1,120 ft. W of SE cor. Sec. 21, Blk. 10, H.&T.C.R.R.	Spudded and shut down.
Jones & Leiner's No. 1 Jones, 420 ft. S and 15 ft. E of NW cor. John G. Reh Sur. No. 1,878	Top lime 1,770 ft.; top pay 1,775-80 ft.; 18 ft. oil in hole; to test; shut down 2,375 ft.
Turner et al's No. 1 Borsig, 150 ft. from S of SE cor. G. Emig Sur. 130, 6 miles west of Paint Rock	Shut down 535 ft.

CRANE COUNTY

Gulf Prod. Co.'s No. 67 McElroy, 2,102 ft. S and 2,640 ft. W of NE cor. Sec. 201, Blk. F, C.C.S.D. &R.G.N.G.R.R.	Rig.
Gulf Prod. Co.'s No. 68 McElroy, 771 ft. S of NE cor. on east line of their lease in Sec. 200, Blk. F, C.C.S.D.&R.G.N.G.	Location.

(Continued on Page 115)

New Production Record in Panhandle

Gray County, With New Wells and Deeper Drilling, Swells Its Daily Output to 88,047 Bbls. Disappointment in Foard County

By L. E. Bredberg
Fort Worth Bureau, The Oil and Gas Journal

FORT WORTH, Tex., Aug. 19.—An 11,125-bbl. increase in the Panhandle district, with a small increase in the Wichita Falls area and a 1,546-bbl. increase in the Ranger district left West Texas as the only district in this part of the State to suffer a decrease. Gray County again boosted the Panhandle district, and went to a new peak itself. More large wells account for this, with increased production from deepened wells boosting the daily average.

Water shortage has become a serious menace in the Wichita Falls district, especially in Wilbarger and Archer Counties where many tests have been shut down due to lack of water for drilling purposes.

The semiwildcat of T. G. Shaw on the Kisinger ranch in southeastern Young County, located in the southeastern part of the John Conner Survey, Abstract 57, had an oil sand from 2,492-2,542 feet and was completed at the latter depth flowing 111 bbls. by heads in 24 hours. It was shot and the shot ruined the casing which is now being pulled to allow the running of 6⅝-inch pipe. Burning of the rig has put an end to operations until another one can be moved in to resume the work. The nearest production to this well is in the pool approximately three-quarters of a mile to the west.

A disappointment loomed on the Foard County horizon in the Wichtex Oil Co.'s No. 1 Johnson, located 150 feet from the south and east lines of the south 40 acres of the T. Johnson tract in Section 44, Block 18, H.&T.C. Survey. It set the pipe on top of oil sand from 2,023-39 feet, and is now shut down at 2,045 feet for orders after encountering but a slight show of oil and a small amount of gas. This was the third possible producer in this new area which was opened in June by the Shell Petroleum Corp.'s No. 1 Tarver from pay sands at 2,014-18 and 2,010 feet. Total depth is 2,053. The Wichtex well may be deepened in the hope of making a commercial producer.

Deeper Drilling in Gray County

The Skelly Oil Co. deepened its No. 2 Jackson in the SE of Section 88, Block B-2, H.&G.N. Survey, Gray County, and the flow increased to 120 bbls. per hour from new pay encountered from 3,107-41 feet, total depth being 3,141 feet. This well was completed in February, 1928, as a 140-bbl. well at total depth of 3,105 feet after encountering pay formation from 3,035-37 feet, but due to its slumping off considerably, the company decided to deepen it as many other wells have been deepened and rehabilitated in this area, and as a result a good flowing well was produced at the new depth.

The Magnolia Petroleum Co. also deepened its No. 1 Bowers, located in the NW Section 63, Block B-2, H.&G.N. Survey, Gray County, from 3,040 feet to 3,129 feet. It was first completed August 8, 1928, with an initial production of 255 bbls. the first 24 hours from pay formation from 2,835-55 feet, and when it was deepened this week it encountered a second granite wash pay strata from 3,117-27 feet and came in for an initial production of 130 bbls. per hour which later dropped to 107 bbls. per hour, with an estimated 3,000,000 feet of gas with the oil.

The Texas Company helped spread the daily average production figures this week, in Gray County when its No. 13 Bowers in the E half, Section 89, Block B-2, H.&G.N. Survey, came in for an initial production of 6,835 bbls. from granite wash pay at 2,990 feet. Total depth is 2,993 feet.

Wilbarger Runs

Daily average pipe line runs out of Wilbarger County for July are as follows:

	Bbls.
Humble Pipe Line Co.	6,011
Sinclair Pipe Line Co.	10,023
Texas Pipe Line Co.	10,802
Waggoner Pipe Line Co.	5,349
Total	32,185

Brown County scored a slight extension of a semiwildcat during the week when F. K. French's No. 1 Dee Belvin and others in the southeast portion of Survey 42, H.T.&B. Survey, came in for 50 bbls. flowing the first three hours from an oil sand at 1,305-08 feet, total depth being 1,308 feet. It is now flowing 20 bbls. per hour. This well is in the new Grosvenor Pool lately opened by L. A. George's No. 1 Smith, and makes the fourth producer in the new pool.

The Eastland or Morris Pool, northeast of Coleman in Coleman County, chalked up another defining well this week in its No. 4-A Keeney of the Eastland Oil Co. in the northwest corner of the Keeney estate lands. This well was dry and abandoned at 2,145 feet and is a marker for the pool to the north, although the Midwest had previously abandoned its north offset test at a total depth of 1,984 feet. The company's No. 5-A, however, came in for a good well with an initial production of 675 bbls. with 5,000,000 feet of gas from 2,114-23 feet, total depth being 2,123 feet. S. B. Owen's No. 1 Keeney, in Section 483, southwest of the pool was an important test in that direction for it helped define the pool to the southwest. It was abandoned at 2,003 feet.

WICHITA COMPLETIONS

Week Ending August 17

Archer County

Stump & Monninger's No. 1 White was dry and abandoned at 1,712 feet. Atlantic Oil Producing Co. and Johnston's No. 2 Prideaux, initial production of 7 bbls. at 725 31 feet. Bridwell's No. 2 Fall company had an initial production of 18 bbls. at 1,121-36 feet. Continental Oil Co.'s No. 3 Logan is a 7-bbl. well at 1,120-24 feet. Continental and Cullum's No. 1 Knight was dry and abandoned at 1,352 feet. Pandem Oil Corp.'s No. 1 Thomas was dry and abandoned at 1,409 feet. Parsons and others' No. 1 Terrell was dry and abandoned at 810 feet. W. L. Ruff's No. 1 Richardson was dry and abandoned at 1,187 feet. Burns' No. 1 Wilson, initial production of 32 bbls. and 6 bbls. salt water at 1,308-14½ feet. Gwynn's No. 5 Thompson made 110 bbls. at 1,573-90 feet. Thornton Lomas, Jr.'s No. 1 McCrary was dry and abandoned at 1,634 feet. George Pace's No. 1 Reilly was dry and abandoned at 2,005 feet. Rathke Oil Co.'s No. 2 Parrish had an initial production of 6 bbls. at 1,588-98 feet. Underwood's No. 5 Anderws was dry and abandoned at 1,008 feet.

Cooke County

Hooser and The Texas Company's No. 1 Deering was dry and abandoned at 2,417 feet. Petroleum Production Co.'s No. 1 Gwynn was dry and abandoned at 1,874 feet.

Young County

Carpenter's No. 5 Barrett made 50 bbls. the first day at 594-632 feet. Park and others' No. 5 Carpenter had an initial production of 44 bbls. at 574-629 feet. Rannell Oil Co.'s No. 3 Jack is a 5-bbl. well at 535-60 feet. Robertson Drilling Co.'s No. 1 Jones was dry and abandoned at 628 feet. United Royalty and others' No. 3 Carpenter, dry and abandoned at 665 feet. Wise-Jackson's No. 1 McDonald, dry and abandoned at 604 feet. Continental Oil Co.'s No. 12 Driver, dry and abandoned at 4,575 feet.

Wichita County

T. F. Hunter's No. 1 Cooper was dry and abandoned at 1,431 feet. Akin & Rayzor and others' No. 6 McClure had an initial production of 20 bbls. at 560 feet. Their No. 7 McClure made 15 bbls. the first day at 565 feet. Their No. 8 McClure had an initial production of 8 bbls. at 810 feet. Their No. 9 McClure made 8 bbls. at 815 feet. Their No. 10 made 40 bbls. at 1,021 feet. Arkansas Natural Gas Co.'s No. 18 Kemp & Kempner made 60 bbls. at 1,499 feet. Bullington, Lee & Pendleton's No. 5-C Jenning had an initial production of 18 bbls. at 1,602 feet. Comanche-Prairie Oil & Gas Co.'s No. 8 Bishop had an initial production of 60 bbls. at 1,787 feet. Eureka Production Co.'s No. 14 Waggoner had an initial production of 42 bbls. at 1,579-85 feet. Golding-Cochran's No. 9 Waggoner had an initial production of 65 bbls. at 1,299-1,312 feet. W. H. Hammon's No. 1 Munger was dry and abandoned at 1,795 feet. Hobbs-Henry's No. 3 Munger was dry and abandoned at 1,790 feet. Humble-Hines' No. 3 Waggoner had an initial production of 60 bbls. at 1,327-31 feet. T. F. Hunter's No. 5-C Waggoner had an initial production of 75 bbls. at 1,291-1,316 feet. Magnolia Petroleum Co.'s No. 6 Ramming had an initial production of 4 bbls. at 766-72 feet. Its No. 1 Waggoner was dry and abandoned at 3,665 feet. Mount and others' No. 3 Waggoner was dry and abandoned at 1,730 feet. Riner-Bailey's No. 9 Michia-A had an initial production of 90 bbls. at 1,790 feet. J. G. Rowe's No. 5 Waggoner made 10 bbls. at 1,465-72 feet. Venmex Oil Co.'s No. 20 Waggoner had an initial production of 85 bbls. at 1,470-88 feet. Venmex and Hines' No. 1 Waggoner was dry and abandoned at 1,934 feet.

Wilbarger County

Burton's No. 1 Waggoner was dry and abandoned at 2,426 feet. Clark and others' No. 3 Waggoner made 75 bbls. at 1,928-33 feet. Consolidated Oil Co.'s No. 9 Waggoner made 75 bbls. at 1,858-74 feet. Empire Gas & Fuel Co.'s No. 14 Waggoner was shot with 20 quarts at 2,290-2,300 feet and had an initial production of 30 bbls. after which it was drilled to a total depth of 2,413 feet. Fain-McGaha's No. 16 Waggoner made 110 bbls. at 1,836-57 feet. Their No. 5 Waggoner had an initial production of 85 bbls. at 2,381-2,414 feet. Golding-Cochran and others' No. 1 Waggoner made 100 bbls. at 2,409-15 feet. Grayback Development Co.'s No. 11 Boggy Creek Waggoner made 85 bbls. at 1,864-76 feet. Phillips' No. 3 Waggoner made 10 bbls. at 1,870-80 feet and was drilled to 1,924 feet. Smith's No. 1 Waggoner made 173 bbls. at 2,039-73 feet. Staley & Wynne's No. 6 Waggoner made 144 bbls. at 2,275-90 feet. Their No. 2 Waggoner made 70 bbls. at 1,893-1,900 feet. Waggoner Refining Co.'s No. 7 Waggoner made 165 bbls. at 1,870-88 feet. Its No. 8 Waggoner made 195 bbls. at 1,856-7[illegible] feet.

PANHANDLE COMPLETIONS

Week Ending August 17

Carson County

Empire Gas & Fuel Co.'s No. 2 Fuqua was drilled to a total depth of 2,736 feet and had an initial production of 41,000,000 feet of gas at 2,690-2,715 feet. Ryan Oil Co.'s No. 4 Block, located 990 feet from north and 330 feet from east line, NE cor., Section 111, Block 4, I.&G.N. R.R. Survey, was drilled to a total depth of 3,071 feet, was shot with 250 quarts at 3,000-64 feet and had an initial production of 120 bbls. Skelly Oil Co.'s No. 17 Schafer had an initial production of 400 bbls. at 3,213-18 feet and was drilled to a total depth of 3,226 feet.

Gray County

Shamrock Oil Co.'s No. 2-C Chapman had an initial production of 100 bbls. the

WILDCAT OPERATIONS IN TEXAS PANHANDLE

Week Ending August 10

CARSON COUNTY

Company, well, farm, name, section and block—	Remarks—
Baber and Shell Pet. Corp.'s No. 1 Percival, 330 ft. S and W, NE cor. E½ SE, Sec. 199, Blk. 3, I.&G.N. Sur.	Location.
Champlin Ref. Co.'s No. 4 McConnell, 990 ft. S and 330 ft. E, NW W½ NW, Sec. 67, Blk. 4, I.&G.N.R.R. Sur.	Set 10-in. csg. 1,011 ft.
Delmar Oil Co.'s No. 5 Noel, 330 ft. S and W, NE cor. W½ SE, Sec. 198, Blk. 3, I.&G.N. Sur.	Set 15-in. csg. 450 ft.
Empire G. & F. Co.'s No. 19 Burnett, C SE, Sec. 89, Blk. 5, I.&G.N.R.R. Sur.	Location.
Empire G. & F. Co.'s No. 1 M. P. Co. "C," 330 ft. N and W, SE cor. NW, Sec. 108, Blk. 4, I.&G.N.R.R. Sur.	Drlg. 800 ft.
Empire G. & F. Co.'s No. 2 Deahl, 660 ft. N and E, SW, Sec. 3, Blk. 5, B.&B. Sur.	Location.
Empire G. & F. Co.'s No. 1 Fuqua, 330 ft. N and W, SE cor. NW, Sec. 17, Blk. 3, A.B.&M. Sur.	Building rig.
Empire G. & F. Co.'s No. 2 M. P. Co. (Lane), C NE, Sec. 62, Blk. 4, I.&G.N.R.R. Sur.	Rigging up.
Empire G. & F. Co.'s No. 1 Deahl, 660 ft. from S and W lines, Sec. 3, Blk. 5, B.&B. Sur.	Drlg. 535 ft.
Gulf Prod. Co.'s No. 1 Garner-B, 330 ft. N and W SE cor. SW, Sec. 106, Blk. 4, I.&G.N.R.R. Sur.	Estimated 7,000,000 ft. gas; drlg. 2,983 ft; 15,000,000 ft. gas.
Gulf Prod. Co.'s No. 3 Cooper, 330 ft. S and 990 ft. W, NE cor. SW, Sec. 5, Blk. 9, I.&G.N.R.R. Sur.	Drlg. 820 ft.
Gulf Prod. Co.'s No. 4 Cooper 330 ft. S and E, NW SW, Sec. 5, Blk. 9, I.&G.N.R.R. Sur.	Location.
Gulf Prod. Co.'s No. 7 Noel, 330 ft. S and W NE cor. SW, Sec. 198, Blk. 3, I.&G.N. Sur.	Drlg. 3,184 ft; S.O. 3,130-84 ft.
Herragan Oil Co.'s No. 1 L. C. McConnell, 330 ft. N and W line W½ SW, Sec. 187, Blk. 3, I.&G.N. Sur.	Drlg. 2,665 ft.
Magnolia Pet. Co.'s No. 7 fee, 990 ft. from W line, 990 ft. from S line SE, Sec. 91, Blk. 4, I.&G.N. Sur.	Drlg. 2,525 ft.
Midwest Explta. Co.'s No. 3 Cooper, 990 ft. S and 330 ft. E NW cor. W½ NW, Sec. 5, Blk. 9, I.&G.N. R.R. Sur.	Run. 6-in. csg. 2,995 ft.
Midwest Explta. Co.'s No. 4 Cooper, 330 ft. N and E, SW cor. W½ NW, Sec. 5, Blk. 9, I.&G.N. Sur.	Rigging up.
Osborne et als' No. 2 Percival, 330 ft. N and W, SE cor. E½ NE, Sec. 199, Blk. 3, I.&G.N. Sur.	Drlg. 2,436 ft.
Prairie O. & G. Co.'s No. 2 Nail, 330 ft. from N and W lines of N½ E½ SE, Sec. 198, Blk. 3, I.&G.N. Sur.	Building rig.
Reynolds et als' No. 2 Cooper, 330 ft. from S and W lines, E½ NW, Sec. 5, Blk. 9, I.&G.N. Sur.	Spudding.
Ryan Cons. Oil Co.'s No. 5 Block, 330 ft. N and W, SE cor. NE, Sec. 111, Blk. 4, I.&G.N. Sur.	Rig.
Ryan Cons. Oil Co.'s No. 6 Block, 330 ft. S, 990 ft. E, NW NE, Sec. 111, Blk. 4, I.&G.N. Sur.	Location.

(Continued on Page 113)

first 24 hours at 2,772-80 feet. The Texas Corporation's No. 6-A McLarty-Lester was drilled to a total depth of 2,800 feet, made 31,000,000 feet of gas from 2,310-60 feet, and 8,000,000 feet of gas at 2,590-2,800 feet. Champlin Refining Co.'s No. 2 McLaughlin had an initial production of 960 bbls. at 2,922-28 feet and was drilled to a total depth of 2,930 feet. Humble Oil & Refining Co.'s No. 2 Jackson had an initial production of 300 bbls. at 2,888-2,915 feet and was drilled to a total depth of 2,974 feet. Magnolia Petroleum Co.'s No. 6 Bowers had an initial production of 325 bbls. at 3,077-80 feet. McMan Oil & Gas Co.'s No. 1 Jackson had an initial production of 2,380 bbls. the first 24 hours at 3,000 feet. Operators Oil Co.'s No. 4 Cook-Faulkner made 15,000,000 feet of gas at 2,842 feet. Sun Oil Co.'s No. 3 Purviance and others, located Section 61, Block B-2, H.&G.N.R. R. Survey, made 485 bbls. at 2,891-2,935 feet. The Texas Corporation's No. 1 Archer had an initial production of 37 bbls. at 3,173-75 feet and was drilled to a total depth of 3,297 feet. Its No. 10 Bowers made 1,250 bbls. of oil and 2,000,000 feet of gas at 2,895-2,900 feet and was drilled to a total depth of 2,960 feet. Its No. 14 Bowers made 1,445 bbls. at 3,065-75 feet and drilled to a total depth of 3,085 feet. Its No. 1 Jackson had an initial production of 2,800,000 feet of gas at 2,595-2,725 feet. Wilcox-Pampa Oil Co.'s No. 8 Combs-Worley had an initial production of 250 bbls. at 2,935-74 feet.

RANGER DISTRICT
Week ending August 17

Brown County

Cranfill & Reynolds' No. 1 Barclay was dry and abandoned at 1,675 feet; S. B. Owens and others' No. 1 George, dry and abandoned at 1,340 feet; Sinclair Oil & Gas Co.'s No. 1 George, dry and abandoned at 1,636 feet. E. L. Smith's No. 2 George had an initial production of 250 bbls. at 1,294-1,311 feet. Superior Oil & Gas Co.'s No. 1 Brooks was dry and abandoned at 3,582 feet. The Texas Company's No. 1 Kesslar made 377 bbls. the first day at 1,282-1,303 feet. Young Brothers and others' No. 10 Kilgore was dry and abandoned at 1,601 feet. Green Production Co.'s No. 2 McCulley had an initial production of 1,000,000 feet of gas at 705-17 feet. Humble Oil & Refining Co.'s No. 4 Tervooren was dry and abandoned at 1,006 feet. Van Bibber and others' No. 1 Looper location was abandoned.

Coleman County

Eastland Oil Co.'s No. 4-A Keeney was dry and abandoned at 2,145 feet. Same company's No. 5-A Keeney made 5,000,000 feet of gas at 2,000-15 feet and had an initial production of 675 bbls. at 2,114-23 feet. Gutzman-Aldrich's No. 1 Powell was dry and abandoned at 1,404 feet. Midwest Exploration Co.'s No. 3 Keeney made 495 bbls. at 2,011-22 feet and 5,000,000 feet of gas at 2,006-11 feet. S. B. Owens' No. 1 Keeney was dry and abandoned at 2,003 feet. Anzac Oil Co. and others' No. 1 McAdams was dry and abandoned at 1,102-10 feet. Continental Oil Co. and others' No. 13 Overall had an initial production of 264 bbls. at 2,115-25 feet. Simpson, White & Pinkerton's No. 2 Schirmacher was shot with 20 quarts at 2,218-28 feet and made 100,000 feet of gas. 990 pounds rock pressure. Taylor-Link's No. 2 Barker made 8 bbls. at 1,718-22 feet.

Callahan County

Bradstreet & Holden's No. 5 Cavanaugh started at 30 bbls. a day after having been shot with 20 quarts at 1,638-57 feet.

Erath County

Kelsey and others' No. 1 Lowe location was abandoned.

Eastland County

Lone Star Gas Co.'s No. 1 Allen estate had an initial production of 3,160,000 feet of gas at 1,035-51 feet. Hopkins' No. 1 Pippen was dry and abandoned at 1,033 feet. Texwa Oil Co. and others' No. 1-B Murrell had an initial production of 38 bbls. at 1,324-39 feet. Their No. 3 Turner had an initial production of 96 bbls. at 1,298-1,324 feet.

Shackelford County

Combest & Adkins' No. 1 Matthews was dry and abandoned at 634 feet. Tom James' No. 1 Newell was dry and abandoned at 1,538 feet. Roeser & Pendleton's No. 46-A-61 Cook made 38 bbls. at 1,268-85 feet. Their No. T-A-88 Cook was good for 102 bbls. oil and 125 bbls. water at 1,376-91 feet. Tannehill and others' No. 23 Newell was dry and abandoned at 954 feet.

Stephens County

Texas Pacific Coal & Oil Co.'s No. 76 Binney was shot with 15 quarts at 1,880-1,903 feet and had an initial production of 25 bbls.

ESTIMATED DAILY AVERAGE PRODUCTION NORTH TEXAS
Week ending August 17

Panhandle District—	Prod.
Carson County	9,567
Hutchinson County	25,101
Gray County	88,047
Moore County	1,180
Potter County	56
Wheeler County	817
Total this week	124,768
Total last week	113,643
Increase	11,125
Wichita Falls District—	
Archer County	19,686
Baylor County	76
Clay County	732
Cooke County	11,136
Foard County	272
Jack County	3,697
Haskell County	101
Montague County	6,506
Throckmorton County	688
Wilbarger County	32,377
Young County	8,235
Wichita County	26,044
Total this week	109,550
Total last week	109,123
Increase	427
Ranger District—	
Brown County	8,195
Callahan County	4,130
Coleman County	7,290
Comanche County	1,200
Palo Pinto County	424
Eastland County	6,065
Shackelford County	11,142
Stephens County	6,753
Total this week	45,199
Total last week	43,653
Increase	1,546
Grand total this week	279,517
Grand total last week	266,419
Increase	13,098

OIL FIELD POST OFFICE ASKED

CHATHAM, Ontario, Aug. 19.—Residents of the new south Turner Valley townsite of Hartell have petitioned the Federal government for the establishment of a new post office to serve the growing population in that vicinity.

EDWARDS LIME SOUGHT IN THE OLD ROCKDALE-MINERVA SHALLOW POOL

By Neil Williams

CORSICANA, Tex., Aug. 19.—The first attempt to find the Edwards lime within the old Rockdale-Minerva shallow pool area of Milam County is to be made immediately with the rigging up by Groneman Brothers for their No. 1 Phillips, northeast of the town of Rockdale. Recent discoveries in the Edwards lime in the Luling district of Southwest Texas have led these operators to start such a test at Rockdale, which lies along the same fault line.

Although no deep tests ever have been drilled at Rockdale-Minerva, which has been an old shallow producing pool, correlation of logs of other deep holes drilled in various parts of Milam County and within a few miles of this shallow pool would indicate the Edwards lime should be found at approximately 3,500 feet.

Few other developments of interest were reported over this district during the week. Amerada Petroleum Corp.'s No. 1 Wade, Fields Survey, Upshur County, which has been watched closely because of its favorable location, made a test of a sand at 5,175 feet but showed only salt water, the fluid rising 4,300 feet in 20 minutes in the drill stem test. Another wildcat in the same county, A. M. Wilborn's No. 1 Hudspeth, also tested salt water in a sand at 3,443 feet.

Four Wildcats Abandoned

Four scattered wildcats were abandoned, including Killiam & Phillips' No. 2 Jones, Falls County; Deering and associates' No. 1 Kelly, Grimes County; McElmurry and associates' No. 1 Coates, Hill County; and Imperator Oil Corp.'s No. 1 Owens, Fannin County.

The McElmurry abandonment was a Woodbine test in the Mount Calm area where a wildcat pumper in the shallow chalk at 700 feet recently was completed. Following failure to find production in the shallow chalk this test was taken on down to the Woodbine which at 1,372-80 feet showed salt water. The hole was deepened to 1,420 feet and abandoned in lime.

The chalk discovery well, Harper & Latson's No. 1 Jones, continues to pump around 20 bbls. of net oil daily, pumping only 12 hours. It so far is the only producer although Harper & Starkey's No. 1 Jones promises another pumper, it having 300 feet of oil in the hole with the bottom of the hole at 810 feet. It is waiting on a pumping rig. Three other tests drilled to the chalk were dry.

On the Boggy Creek Dome of Anderson and Cherokee Counties, Humble Oil & Refining Co.'s No. 3-A Todd is drilling lime at 3,835 feet. The same company's No. 2 Beard is drilling sand at 667 feet; No. 4 Holloway, slate and shale at 3,223 feet; No. 2 Neches, shale and boulders at 549 feet; No. 4-A Elliott & Clark, shale at 1,748 feet. No. 2 Purvy is rigged up. Magnolia Petroleum Co.'s No. 1 Williams, on the north side of the dome, is drilling at 305 feet.

Humble in Sand and Shale

Humble Oil & Refining Co.'s No. 4-A Southern Pine on the Posey Saline, also Anderson County, is drilling sand and shale at 1,544 feet. Pure Oil Co.'s No. 1 Jackson, Bethel Dome, this county, is drilling broken chalk at 4,956 feet.

Patty and associates' No. 1 Randall, Leon County, is drilling sandy shale at 1,045 feet. Reiter & Baggett's No. 1 Busby, Leon County, is drilling sticky shale at 1,344 feet.

In Limestone County, C. F. Lytle's No. 1 Thompson, Trinity test at Mexia, has successfully cleaned the hole of stuck drill stem and now is trying to sidetrack at 4,200 feet. Total depth of the hole is 6,048 feet. Jensen & Baggett's No. 1 Powell, a mile west of the Mexia Field and within the city limits of Mexia, is drilling chalk at 2,367 feet.

In Navarro County, Nash and associates' No. 1 Adams, northeast of the Currie Field, is drilling shale at 3,379 feet.

Magnolia Petroleum Co.'s No. 1 Duran, Lollar Survey, Rusk County, is drilling shale with streaks of lime at 3,698 feet. Louisiana Petroleum Co.'s No. 1 Alford, Rusk County, is drilling shale and shell at 3,033 feet.

Daily average production of East Central Texas for the week ending August 17, was:

East Central Texas

Boggy Creek	2,661
Cedar Creek	80
Currie	550
Hill County	20
Mexia	5,382
Minerva	650
Nigger Creek	330
Powell	7,829
Richland	380
Thrall	32
Wortham	1,235
Total	19,149
Week ending August 10	18,047
Increase	1,102

FORMER BURMA OIL MEN ENTERTAINED

A group of Bradford oil men who formerly worked in the Burma fields of India. George Edwards, an official of the Burma Oil Co. entertained the party at a dinner in the Elks Club in Bradford recently just before his departure for Burma.

The party seated, from left to right, is made up of George Edwards, the host; James Leash, Harry Griffin, Frank Brown, Chris Schmuck and Clarence Moore, and standing from left to right, Michael Hanrahan, Porter Brown, Carl Morris and Grant Fowler.

ANDES AND ATLANTIC TO DRILL TWO WELLS

NEW YORK, Aug. 19.—Andes Petroleum Co. and Atlantic Refining Co. are negotiating for drilling two wells on jointly owned property in the Mara district of Venezuela, Dr. Roy E. Dickerson, chief South American geologist for Atlantic Refining, and E. J. Brantley, the Andes geologist, being here preparing data for the tests. Andes Petroleum has a royalty interest in the Amana well, brought in last year by Gulf Refining in the Mara district with daily initial flow of 500 bbls. The hole went crooked at 4,280 feet and the well now is producing only about 50 bbls. a day. Gulf is drilling another well, Amboy, in the same district under a royalty contract with Andes, the well showing signs of oil at 5,000 feet.

BARNSDALL MEN PROMOTED

D. R. Snow of the Barnsdall Oil Co. has been made manager of the land and geological departments. Mr. Snow has been chief geologist for a number of years. G. A. Schwab, who has been chief scout of the Barnsdall Oil Co. has been made superintendent of the land department, both having headquarters in Tulsa.

Pipe Line Construction News

SURVEYING LINES FOR 12 EAST TEXAS TOWNS

SHREVEPORT, La., Aug. 19.—The Arkansas-Louisiana Pipe Line Co. has crews in the field surveying for an 8-inch line to furnish gas to 12 towns in East Texas where the Southern Cities Distributing Co., retailing subsidiary, has franchises. There will be 136 miles of line altogether, 50 miles of 8-inch and the remainder of 6-inch some of which will be in laterals to towns to be served.

The line will leave the Shreveport-Little Rock 18-inch main at Rogers compressor station north of Oil City, La., and follows a route between the towns to be served to Pittsburg, Tex., laterals branching off north and south to Mount Vernon, Mount Pleasant, Jacksonville, Avinger, Linden, Gilmer, Hughes Springs, Omaha, Daingerfield, Winnsboro and Naples. Later on franchises may be sought in other communities. Construction will follow the survey as rapidly as possible with the idea of completion and service by December 1. Meanwhile construction has begun on a 6-inch line from Camden to Fordyce, Ark., approximately 25 miles.

A 10-inch line is to be built by C. O. Moore and associates from the Clarksville gas field in Johnson County, Arkansas, to Fayetteville and 6-inch and 8-inch from there to Rogers, Mentonville and other towns along the Frisco Railroad north of Fayetteville.

NEW INDIANA GAS LINE

Frank J. Haas, vice president and general manager of the Southern Indiana Gas & Electric Co., at Evansville, Ind., announces that his company has entered into a contract with the Indiana Oil & Gas Corp. to supply natural gas at Evansville for domestic, industrial and commercial purposes. The gas will be piped to Evansville from the gas producing areas of Pike and Gibson Counties which have been developed by the Indiana Oil & Gas Corp. in the past few months. Work on the pipe line will start shortly and service to Evansville citizens within a couple of months. The plan whereby the natural gas will be substituted at Evansville for manufactured gas will be presented before the Indiana Public Service Commission at once for approval. The commission, if and when it approves the change, will also set down the rates to be charged.

PIPE LINE PROJECT DENIED

CHATHAM, Ontario, Aug. 19.—C. O. Stillman, president of Imperial Oil Ltd., has authorized the statement that no plan is under consideration by his company, as reported, to construct a natural gas pipe line from the Turner Valley Field to Winnipeg and market the Turner Valley waste gas to that city, and to Saskatchewan and Manitoba communities along the route. Mr. Stillman says his company has investigated the possibility of a pipe line from the Turner Valley to Winnipeg in a cursory way, but that the estimated cost of $50,000,000 and the limited market afforded at present for such an undertaking would render it impracticable since many years would be required to get back the original investment. He intimated that the project might be undertaken as a provincial or interprovincial enterprise.

GLASS CONCERNS BUILD LINE

The Libbey-Owens Glass Co. and Owens Illinois Glass Co. have acquired 48,000 acres of natural gas lands in Wayne and Cabell Counties, West Virginia, and will build a $750,000 pipe line to supply their plants at Kanawha City, near Charleston, with natural gas.

PIPE MILL OPERATIONS IMPROVE, RUNNING CLOSE TO 60 PER CENT

By B. E. V. Luty

PITTSBURGH, Pa., Aug. 19.—Pipe mill operations have increased slightly in the last few weeks and may now be estimated as averaging close to 60 per cent of the entire capacity. As there is some old capacity, likely to be abandoned in time, the percentage of actually effective capacity now operating is materially higher. Pipe mills are doing well now in line pipe, with recent bookings. In standard or merchant pipe they are doing as well as a year ago. Some mills are doing better.

Seamless tube mills are still estimated at about a 70 per cent operation. They are doing fairly well in oil country goods and in boiler tubes. Mechanical tubing has been off slightly in the last two months on account of automobile production being lighter.

Production of steel as a whole is substantially maintained. Apparently almost everybody has been convinced in the last few weeks that production was certain to decline, and accordingly little items of decreases are magnified. A few of the smaller mills have curtailed production somewhat. One case in the Pittsburgh district may perhaps be typical, this being that of a producer specializing in automobile steel, demand for which is off seasonally. The large producers, with diversified output, put more steel into other lines, in which they are well supplied with orders, when automobile demand slackened.

Ingot Production Sags

The official reports of steel ingot production show the July rate to have been 4.7 per cent under the May rate, which was a record high. The decrease may be attributed in part at least to hot weather and increased necessity of making repairs after this long period of hard driving. By the official count the decrease was from June to July rather than from May to June, but this count excludes Sundays, of which there were five in June, and not a little steel is now made on Sundays, so that it would appear there was really little decrease from June to July.

The only decreases visible in requirements are in the automobile industry and in production of rails. Both these are seasonal and, other things being equal, would curtail steel production 5 to 8 per cent in this half of the year as compared with the first half. In the other lines there are no signs whatever of decreased requirements.

The United States Steel Corp.'s unfilled obligations decreased 168,733 tons during July, making the third month of decreases after five months of consecutive increases. In the last five years July has shown a decrease three times and an increase twice. Comparing the first seven months, there was more than a million tons decrease in both 1925 and 1926, 800,000 tons in 1927 and 400,000 tons in 1928, whereas this year the seven months show a net increase of 11,465 tons. Thus on the whole the unfilled tonnage reports are promising for future activity.

Pig Iron Makes New High

While it is a common thing for steel production to make a new record, that is rather rare in pig iron, because production of castings and rolled iron does not grow and the steel mills use more scrap. Production of pig iron in the first half of this year, however, made a new first-half record by 3.8 per cent, passing the first half of 1923. That was an exceptional half year, production being especially heavy to make up for the depletion of pig iron stocks in 1922 occasioned by the great bituminous coal strike of that year. The gain from the first half of last year to the first half of this year was 17 per cent, the same as the gain in steel ingot production.

Finished steel prices show no change in the week. Wire nails recently declined about 10 cents a keg, on an average, and black and galvanized sheets slipped several weeks ago. They have lost no more ground recently. Cold rolled strip is reported a trifle steadier.

SURVEY FOR 115-MILE LINE

Cities Service Gas Co., the gas division of the Empire Oil & Refining Co., is surveying right of way from its booster plant in the Otstot Pool, Kay County, Oklahoma, on school Section 16-27-1w, southwest through Kay, Noble and Logan Counties, Oklahoma, to the Oklahoma City oil and gas field in Oklahoma County. The distance covered by the proposed line is approximately 115 miles. A 16-inch line is to be laid from the booster plant to Oklahoma County. There is a 12-inch line in operation from the booster plant to the compressor station in the Dilworth Pool, northeast Kay County. From the Dilworth station there is a 20-inch line in operation through to Cambridge, Kans.; Wichita, Kans.; Kansas City, Mo., and other Missouri and Kansas towns. When the line is laid gas will be run to the enumerated towns and cities from Oklahoma County.

REFUGIO LINE COMPLETED

SAN ANTONIO, Tex., Aug. 19.—Gulf Coast Pipe Line Co. (William F. Morgan) has completed the laying of the 6-inch oil line from the Refugio Field in Refugio County to Harbor Island docks at Aransas Pass and started running oil. The company has three 55,000-bbl. tanks completed on its tank farm south of the city of Refugio and four tanks of the same size are available for storage on Harbor Island. The company is understood to have contracted for all the present production in the Refugio Field with the exception of that of the Houston Oil Co., which has erected one 55,000-bbl. tank near the Refugio Field and is preparing to take care of its own production. The estimated production of the field at this time is 7,500 bbls. a day, all of the wells being on small choke and the production could be quickly increased by the drilling of additional tests as a big acreage has been proven.

P. G. & E. LINE COMPLETION

The Pacific Gas & Electric Co. practically has completed its 250-mile natural gas pipe line from San Jose to the Kettleman Hills Field, where it will be hooked up with the Milham Exploration Co.'s No. 1 Elliott, discovery well.

Constructed at a cost of approximately $13,000,000, the line will supply many cities with gas and will handle Milham's present output of 70,000,000 feet of gas daily. The line is capable of handling 125,000,000 feet daily.

LINE FROM BOYNTON PLANNED

The Transcontinental Pipe Line Co. has under consideration a new pipe line from their Boynton, Okla., refinery to the new field at Oklahoma City. The line will consist of 6 and 8-inch pipe and will handle approximately 20,000 bbls. daily.

LINE FROM KETTLEMAN HILLS TO SAN JOAQUIN

The Southern California Gas Co., Pacific Lighting subsidiary, has completed plans for serving natural gas to central San Joaquin Valley towns and already has started laying a 10-inch line from Kettleman Hills to Lemoore Junction, where the line branches, an 8-inch line going north to Fresno and a 6-inch line going east to Visalia. It is proposed to extend the Fresno line to Merced in the near future, the company says. To insure an adequate supply of natural gas, the Southern California Gas Co. has signed a 20-year contract with Kettleman Hills operators.

On completion of this transmission system in October the company's San Joaquin Valley division, embracing about 11 towns, will go on a straight natural gas basis instead of the present manufactured gas service now in effect.

Another contemplated project is a large pipe line from Kettleman Hills south to the Elk Hills Field, approximately 75 miles, to connect with transmission lines from the Elk Hills-Buena Vista district. Surveys for this route now are being made and the estimated cost is $2,500,000.

In the interest of conservation, the Elk Hills-Kettleman line may be used to conserve and save excess casinghead gas production in the Kettleman Field by transmitting gas to depleted gas and oil formations in the Buena Vista Hills Field and other fields en route. The company plans also to erect a new meter shop at Visalia to handle the needs of the San Joaquin district.

GULF LINE DOUBLES OUTLET

HOUSTON, Tex., Aug. 19.—The Gulf Pipe Line Co.'s additional 10-inch trunk line from West Texas to Port Arthur, a distance of 450 miles, with the exception of the 101 miles between Wortham and Lufkin, is completed. Three pipe line gangs are at work on the uncompleted portion. The new line, which has been delayed by rains and floods, will be in operation by the middle of September. It will double Gulf's West Texas outlet to the coast, allowing the company to run better than 50,000 bbls. daily. Gulf has more than sufficient production of its own to keep both lines full. Excess production will be run to storage.

LAYING 8-INCH LINE

The Oklahoma Natural Gas Co. has entered into contract with producers in the Eastland or Morris Pool in Coleman County, Texas, for the purchase of gas and is laying an 8-inch line from its main line to San Angelo into the field where there is a daily production of from 40,000,000 to 50,000,000 feet of gas (open flow measure) available.

FIGURING ON BRANCH LINE

SHREVEPORT, La., Aug. 19.—The Southern Gas Co., which in 1922 built the first pipe line out of the Monroe Field, the 12-inch line to Alexandria, La., is figuring on a branch line to Colfax, Grant Parish. The tap would be about 20 miles in length, branching from the main line north of Alexandria, or possibly an extension from Alexandria, the distance in both cases being approximately the same. The company's idea is reported to be to sell the tap and distributing system to the town of Colfax, to be paid for out of profits on retail gas.

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OKLAHOMA FIELDS

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17, and a small amount of water. The well will remain pinched in until the offsets reach the same pay horizon.

The wildcat test being drilled by Shaffer Oil & Refining Co. and Margay Oil Co., is reported to be running low on structure. It is northwest of the Asher Pool and is No. 1 Adams, in the NE cor., Section 11-6-3, Pottawatomie County. It had a sand at 3,957-65 feet with 3,000 feet of water and was drilling ahead at 3,985 feet. It is still above the Mayes lime and the geologists predict it has little prospects of making a producer from either the Hunton or Wilcox horizons.

In the Southern Field

The southern part of Oklahoma has not had any outstanding developments the last week, some leasing being done and new tests getting under way. The Bridwell Oil Co. has a block in Sections 6, 7, 8, 9, 16, 17, 18 and 21-1s-11w, Comanche County. After working the geology on this acreage a wildcat test has been located in the SE cor. NW, Section 17-1s-11w. It will be drilled to the 2,500-foot horizon. Staley and others' have leased a block of acreage and intend to start a test well in the NE cor. SE, Section 25-4s-14w, Tillman County. The test will be drilled to and through the 2,200-foot sand. Amerada Petroleum Corp.'s No. 1 Delana, in the SE cor. NW, Section 31-4s-9w, Cotton County, had dry granite wash at 3,275-3,348 feet, and is being abandoned. Carter Oil Co.'s No. 1 Kerns, SW cor. NE SE, Section 21-3-5w, Grady County, is cementing 12½-inch casing at 2,363 feet. It is the longest string of casing of that size in the county. The company intends to make a deep test which will enable the geological department to secure additional data on deep formations. Magnolia Petroleum Co.'s No. 1 R. J. Johnson, in the SE cor. NE, Section 32-1s-3w, Carter County, an old well that is being deepened, is rigging up cable tools at a total depth of 4,150 feet. Same company's No. 5 R. Johnson, in the NE cor. SE, Section 32-1s-3w, is waiting for cement to set at a total depth of 4,181 feet. It had a showing of oil at 4,183-87 feet. Same company's No. 8 Hefner, SW cor. NW SW, Section 33-1s-3w, is drilling ahead at 4,250 feet. The Palacine Field is active, several tests drilling and others getting started. Wirt Franklin Petroleum Corp.'s No. 1 Brooke, SE cor. NE, Section 8-2s-6w, Stephens County, is drilling at 1,850 feet. It is three-quarters of a mile west of the discovery well. Same company's No. 1 Bonner, NW cor. SE, Section 9-2s-6w, is drilling at 1,600 feet. It is located south and east of the discovery well. The same company's discovery well, No. 1 Spain, SW SE NW, Section 9-2s-6w, made 230 bbls. on the pump August 17. Same company's No. 1 Van, SW cor. NW, Section 4-5-9w, Caddo County, is still fishing at 5,600 feet for casing while the total depth is 5,855 feet.

The gauges for the various pools in the greater Seminole area show a small decline for the last week. The following are gauges for August 17:

Seminole Pool Production

Pool—	Bbls.
Little River	77,704
Carr City	11,918
Maud	14,089
Mission	26,634
Bowlegs	33,474
Earlsboro	89,066
Seminole	32,994
East Seminole	5,471
Searight	12,077
St. Louis	71,896
Asher	9,763
Sasakwa	6,661
Total	391,747

Seminole Pipe Line Runs

The daily average pipe line runs from the Seminole Field for the last week were as follows:

Company—	Bbls.
Barnsdall	4,322
Champlin	4,476
Continental	1,246
Consolidated	385
Cosden	9,365
Empire	9,572
Gulf	43,599
Independent	None
Magnolia	21,370
Oklahoma	55,414
Prairie	62,825
Producers & Refiners	1,875
Pure	5,303
Shaffer	2,676
Shell	10,034
Sinclair	28,988
Texas	17,562
Tidal	18,529
White Oak	3,037
Total	300,578
Tank cars	8,470
Grand total	309,048

A Crooked Hole Incident

Here is a record of a crooked hole that resulted in a hole full of water in the Wilcox sand while a twin well drilled on practically the same location was a producer in the Wilcox sand. The Gypsy Oil Co. drilled both tests in the SW cor. NE Section 13-9-5, Seminole County. The first test was No. 2 Wisner, which was found to be 30 degrees off vertical at a total depth of 3,200 feet. The company decided to drill the test to the Wilcox sand. The markers were found as follows: Mayes at 4,210 feet, Woodford at 4,300 feet, Sylvan shale at 4,370 feet, Viola lime at 4,495 feet, and the Wilcox sand at 4,624-34 feet with a hole full of water, and the test was abandoned at this depth. The owners, after making an investigation of the area started another test on the same location by moving the rig a few feet, taking great care to drill it straight. The tops of the various markers in the second test revealed it to be running higher than the first. The top of the markers were found as follows: Mayes at 3,820 feet, Woodford at 3,910 feet, Sylvan shale at 4,020 feet, Viola lime at 4,105 feet, Wilcox sand at 4,216-27 feet, where it swabbed 45 bbls. in 12 hours and no water. The new well is an offset to the Carter Oil Co.'s No. 1 Gilliam, on the south, and the Barnsdall Oil Co.'s No. 1 Gilliam, in the SE cor. NE SE Section 13-9-5, Seminole County. The above wells indicate the possibility of the new pool in Section 18-9-6 and the Earlsboro Pool connecting.

Carter County

Ven Mex Oil Co. has the rig up for No. 3 Eason, NW cor. NE SE, Section 19-1s-3w. No. 2 Denny, SW cor. Section 20-1s-3w, is also a rig. The rig has been built for No. 2 See, NE cor. SW SE, Section 23-1s-3w. Location has been made for No. 1 McGahey, NW cor. Section 29-1s-3w. No. 1 Pierce, SE cor. NW NE, Section 30-1s-3w, is also a location. C. R. Smith's No. 3 Fee, NW cor. SE NE, Section 27-2s-3w, is drilling at 3,449 feet.

The Prairie Oil & Gas Co.'s No. 1 McCartney, NW cor. NW SE, Section 30-1s-3w, is making 40 bbls. from broken sand 2,760-2,823 feet. Ven Mex Oil Co.'s No. 2 Eason, NE cor. SE, Section 19-1s-3w, has been completed for 65 bbls. in sand 3,406-30 feet. No. 1 Dixon, SE cor. NW, Section 30-1s-3w, has been completed for 358 bbls. in sand 2,835-47 feet.

Creek County

Texas Pacific Coal & Oil Co. has the rig up for No. 10 Beaver, NW cor. Section 17-16-9. Blackwell Oil & Gas Co. made location for No. 12 Tiger, NW cor. SE SW, Section 17-17-7. W. B. Pine and others moved the rig in for No. 2 H. Tiger, NW cor. SW SE, Section 17-17-7. Magnolia Petroleum Co.'s No. 11 Lewis, SE cor. SW SW, Section 27-17-7, is cleaning out to deepen from 1,545 feet. Skelly Oil Co. and others made location for No. 1 Walker, NE cor. NW SE, Section 23-17-8. Kurell Oil Co.'s No. 2 Davis, SE cor. Section 11-17-11, is a machine rigging up. Operators Oil Co. made location for No. 1 Boles, SW cor. NW SW, Section 10-19-9. Gypsy Oil Co. made location for No. 1 Grayson, SW cor. Section 16-19-9. H. U. Bartlett Oil Co. has a machine on the location for No. 1-A Hutton, SE cor. NE, Section 17-19-9.

Shaffer Oil & Refining Co. & Billingslea's No. 3 Lewis, NE cor. SW SW, Section 10-15-8, has been completed for 6,500,000 feet of gas in sand 3,157-65 feet. Nowata Oil & Refining Co.'s No. 1 Myers, SE cor. NW, Section 11-16-8, has been abandoned at 3,747 feet. Sinclair Oil & Gas Co.'s No. 8 S. Dacon, SW cor. SE SE, Section 16-17-7, has been completed for a 1-bbl. pumper in Bartlesville sand 2,748-2,832 feet. Glenora Refining Co.'s No. 4 Walker, NE cor. NW NW, Section 23-17-8, made 2,000,000 feet of gas in sand 3,495-3,522 feet. Jackson & Wise's No. 1 Oglesby, SE cor. NE SE, Section 14-18-8, is dry and abandoned at 3,407 feet. H. U. Bartlett Oil Co.'s No. 1 Parks, SE cor. NE NE NW, Section 30-18-9, has been completed for 18 bbls. in sand 2,684-98 feet.

Hughes County

Magnolia Petroleum Co.'s No. 5 Reed, SW cor. NW, Section 17-5-8, made 225 bbls. in Cromwell sand 2,665-2,730 feet. Steckleburg and others' No. 1 Lowery, NW cor. Section 19-9-10, has been completed for 6,000,000 feet of gas in sands 2,580-2,620 feet and 2,960-3,015 feet.

Lincoln County

Magnolia Petroleum Co. has the rig up for No. 2 Staubus, NE cor. SW SE, Section 8-14-4. No. 8 F. Sukovaty, NW cor. NE NE, Section 3-14-5, has been abandoned at 3,680 feet.

Logan County

J. S. Cosden, Inc., moved rig material for No. 4 Gardner, SE cor. NW, Section 31-19-4w, Roxana Pool.

McIntosh County

Western Natural Gas Co.'s No. 1 Wells, C S half SE NW, Section 15-11-17, has been abandoned at 879 feet.

Murray County

Revels & McGee's No. 1 Wolf, NW cor. Section 17-1-2, is a dry hole at 2,510 feet.

Muskogee County

W. E. Lightner and others moved a machine in for No. 1 S. Sullivan, NW cor. NE, Section 30-14-16. C. D. Bradley has a machine on the location for No. 1 Taylor, NW cor. SW SE, Section 7-14-19. J. R. Shaw and others' No. 1 Muskogee Townsite, Lot 6, Block 308, NW cor. SW NW, Section 35-15-18.

Noble County

Peerless Oil Co. and others made location for No. 1 Wentz, NW cor. SW, Section 22-22-1.

Okfuskee County

Champlin Oil & Refining Co. and Empire Oil & Refining Co.'s No. 12 Darr, SW cor. NE SW, Section 15-11-11, is a rig on the ground. Champlin Oil & Refining Co.'s No. 13 Holmes, NW cor. NE, Section 22-11-11, made 512 bbls. in Wilcox sand 3,484-3,501 feet. C. L. McMahon and J. Carey's No. 2 Sproleder, SE cor. SW SE, Section 29-12-10, has been completed for 27,000,000 feet of gas in sand 3,089-3,139 feet.

Oklahoma County

Sinclair Oil & Gas Co. and Amerada Petroleum Corp. made location for No. 2 Kinter, SW cor. SE, Section 30-11-2w, Oklahoma City Pool. Sinclair Oil & Gas Co. made location for No. 4 Stamper, NW cor. SW NW, Section 30-11-2w. Skelly Oil Co. has the cellar dug for No. 1 Hoopes, NW cor. NE, Section 31-11-2w. Indian Territory Illuminating Oil Co. made location for No. 1 Jennings, NE cor. SE Section 13-11-3. No. 2 Jennings, SW cor. NE SE, Section 13-11-3w, is also a location. Location has been made for No. 1 Brokaw, SE cor. NE, Section 13-11-3w. Cromwell, Wirt Franklin Petroleum Corp. and others made location for No. 4 Trosper Park, SW cor. NE, Section 13-11-3w. Location has been made for No. 5 Trosper Park, NE cor. NW NE, Section 13-11-3w. Indian Territory Illuminating Oil Co. made location for No. 1 Speegle, SW cor. Section 24-11-3w. No. 1 Sadie Peterson is a location NE cor. SW, Section 25-11-3w. Location was made for No. 1 Mackey, NE cor. Section 26-11-3w. Sinclair Oil & Gas Co. made location for No. 1 School land, NW cor. NE, Section 36-11-3w. The Prairie Oil & Gas Co. and T. B. Slick's No. 4 Hiddleston, NW cor. SE, Section 19-11-2w, is a rig under construction.

Okmulgee County

Sam Bright and others' No. 1-A James, CEL SW SE, Section 31-15-12, is dry and abandoned at 2,787 feet.

Osage County

Wrightsman Petroleum Corp.'s No. 1, NW cor. SE, Section 32-22-8, is drilling at 200 feet. Branstetter and Barnsdall Oil Co. moved a machine in for No. 4, CEL SE, Section 22-22-11. A. G. Oliphant and others made location for No. 1 NE cor. SW, Section 13-24-6.

W. S. Mitchell's No. 1 NE cor. NW NE, Section 7-21-9 is dry and abandoned at 2,390 feet. Indian Territory Illuminating Oil Co.'s No. 413, SE cor. NE SE, Section 6-25-11, has been completed for 2,000,000 feet of gas in Burgess sand 1,829-58 feet.

Pawnee County

Roy Sears and others' location for No. 5 Wiggs, C NE NW Section 35-20-9. Jenal & Lee moved a machine in for No. 1 Keystone Townsite, Lot 13, Block 73, NW cor. NE SE, Section 25-20-9. McMann and others' No. 1 Zickelfoose, NW cor. NE, Section 34-20-9, is dry and abandoned at 2,220 feet. Sears and others' No. 4 Wiggs, CSL NE NW Section 35-20-9, made 300 bbls. in Red Fork sand, 2,013-44 feet.

Payne County

Transcontinental Oil Co. moved the rig in for No. 1 Shannon, NW cor. SE SW, Section 24-18-4. No. 2 Powers, SW cor. NW NW, Section 10-18-5, has been completed for 5,500,000 feet of gas in sand 2,099-2,110 feet.

Pontotoc County

McMann Oil Co. made location for No. 1 Lane, NE cor. NW, Section 30-5-5. C. B. Shaffer has the rig up for No. 3 Chatman, C NW NE, Section 36-5-7. Sinclair Oil & Gas Co.'s No. 2 Gardner, SE cor. NW, Section 3-4-6, is dry and abandoned at 1,280 feet. Transcontinental Oil Co.'s No. 1 Bolene, SE cor. SW NW, Section 19-5-5, is making 80 bbls. from Viola lime, 2,344-79 feet. Texas Pacific Coal & Oil Co.'s No. 1 Hatcher, NW cor. NE, Section 30-5-5, has been completed for 90 bbls. in Viola lime, 2,350-2,429 feet, total depth 2,500 feet.

Pottawatomie County

Texola Oil Co. made location for No. 1 Asher Townsite, Block 1, Parson Addition, NE cor. SE SE SE, Section 13-6-3. Commerce Development Co. has the cellar dug for No. 1 Asher Townsite, Block 66, SW cor. SE SW SW, Section 18-6-4. Independent Oil & Gas Co. is building the rig for No. 1 Weldfelt, NE cor. NW NW, Section 2-7-4, St. Louis Pool. Empire Oil & Refining Co. made location for No. 1 McCouven, SW cor. NW, Section 25-8-4. The Prairie Oil & Gas Co. is building the rig for No. 1 Jordan, NW cor. SW SW, Section 9-8-5, Maud Pool.

Minnehoma Oil Co.'s No. 2 Simms, SE cor. NE SE, Section 16-7-4, Pearson-St. Louis area, has been completed for 450 bbls. in Hunton lime, 3,683-3,785 feet. Empire Oil & Refining Co.'s No. 1 Bettis, NW cor. SW SE, Section 17-7-4, made 370 bbls. in Simpson sand 4,237-52 feet. The Prairie Oil & Gas Co.'s No. 2 Reagan, NE cor. SE NE, Section 17-7-4, has been completed for 1,665 bbls. in Simpson sand 4,095-4,133 feet. No. 1 Cummings, NE cor. Section 17-7-4, made 600 bbls. in Simpson sand 4,043-78 feet. No. 2 Cummings, SE cor. NE, Section 17-7-4, has been completed for 325 bbls. in Simpson sand 4,180-4,212 feet. The Prairie Oil & Gas Co.'s No. 1 Tom Wood, NE cor. SE, Section 27-7-6, Little River Pool, has been abandoned at 3,226 feet in Cromwell sand. No. 5 M. Wood, NW cor. SW, Section 26-7-6, is dry and abandoned at 3,380 feet in Cromwell sand. Gypsy Oil Co.'s No. 1 Gossland, NW cor. SW, Section 9-8-5 Maud Pool, made 1,642 bbls. in Hunton lime 4,111-17 feet. Laurel Oil Co.'s No. 4 Billington, NW cor. NE NW, Section 18-8-5, is dry and abandoned at 4,397 feet in Wilcox sand. Magnolia Petroleum Co. and Gypsy Oil Co.'s No. 1 Smith, NW cor. NE, Section 20-8-5, swabbed 215 bbls. in Simpson sand 4,155-59 feet.

Comanche County

Bridwell and others' No. 1 Porter, NE cor. SE SE NW, Section 17-1s-11w, is rigging up.

Seminole County

Blackwell Oil & Gas Co. moved the rig in for No. 3 Fleet, SW cor. NW, Section 13-5-7. Magnolia Petroleum Co. made location for No. 7 Reed, NE cor. SE NE, Section 22-7-6, Little River Pool. Carter Oil Co.'s No. 3 Walker, SE cor. NE NW, Section 24-7-6, is rigging up. Magnolia Petroleum Co. has the rig up for No. 1 Scipio, SW cor. NW NW, Section 4-7-7, East Little River Pool. Twin State Oil Co. moved the rig in for No. 3 Judy, CNL S half, Section 6-8-6 Mission Pool. Magnolia Petroleum Co. made location for No. 4 Reed, SE cor. NE NW,

Section 4-8-7. Sinclair Oil & Gas Co. staked location for No. 2 S. Warrior, NE cor. NW SW, Section 17-9-7, East Seminole Pool.

The Texas Company's No. 11 Lucy, SW cor. SE SE. Section 18-5-8, has been completed for 490 bbls. in Cromwell sand 2,510-92 feet. Independent Oil & Gas Co.'s No. 5 Davis, CNL SW SW, Section 13-7-6, Little River Pool, made 115 bbls. at 3 337 feet after plugging back from 3,351 feet. Gypsy Oil Co.'s No. 17 Cotcha, SW cor. NE SW, Section 23-7-6, has been shut in for 31,000,000 feet of gas in sand 3,094-3.127 feet. Continental Oil Co.'s No. 1 Lack, NE cor. NW SE, Section 27-7-6, Little River Pool, is dry and abandoned at 3,095 feet. Empire Oil & Refining Co.'s No. 2 Cotcha, NE cor. NW NE. Section 27-7-6, has been abandoned at 3,655 feet. No. 3 Cotcha, NW cor. SE NE. Section 27-7-6, is dry and abandoned at 3 310 feet. No. 4 Cotcha, SE cor. NW NE, Section 27-7-6, is a dry hole at 3.233 feet. Mid-Continent Petroleum Co.'s No. 7 Smith, SW cor. NE. Section 5-7-7, East Little River Pool, made 3,470 bbls. in Wilcox sand 4.219-31 feet. Gypsy Oil Co.'s No. 3 Mission, SW cor. SE SW, Section 5-8-6 Mission Pool. is dry and abandoned at 4,509 feet. Pure Oil Co.'s No. 8 Strothers "F," NE cor. NW, Section 10-8-6, drilled to 4.334 feet, plugged back to 3,000 feet and was abandoned. Magnolia Petroleum Co.'s No. 1 Sarkeys, SW cor. NE NW, Section 8-9-6. has been abandoned at 4 375 feet. Carter Oil Co.'s No. 1 Community-Mayhue, SW cor. NE SW, Section 11-9-6. made 1,410 bbls. in Wilcox sand 4,136-53 feet.

Stephens County

Shell Petroleum Corp. made location for No. 1 Pierce, SW cor. SE SE, Section 2-1s-4w. Wirt Franklin Petroleum Corp. has the rig up for No. 3 Drake "B," NE cor. SW NE, Section 12-1s-4w. Lone Eagle Oil Co.'s No. 13 Simpson, SW cor. NE SE. Section 34-1s-8w, has cemented the 8-inch pipe on top of a sand at 1.823 feet. Magnolia Petroleum Co. made location for No. 25 Kagay, NE cor. NW SW, Section 34-1s-8w. No. 26 Kagay, NW cor. NE SW. Section 34-1s-8w is a rig. No. 5 Burke, NW cor. NE NW SE, Section 34-1s-8w, is an old well rigging up to deepen from 1.670 feet. Ellis Drilling Co.'s No. 7 Nigh, NE cor. SE SW NW. Section 34-1s-8w. is rigging up rotary. Roy Carter's No. 9 Simpson, SW cor. NW SE SE, Section 34-1s-8w, is rigging up rotary.

American Pire Line Co.'s No. 8 Nigh, SW cor. SE NW. Section 34-1s-8w. is pumping 25 bbls. from sand 1.862-66 feet. Magnolia Petroleum Co.'s No. 7 Peck, NE cor. SW SE NE. Section 13-2s-8w, is pumping 42 bbls. from sand 1 492-97 feet. Pace and others' No. 2 McMasters, SE cor. NW NE. Section 13-2s-8w, has been abandoned at 1.549 feet. Pace and Ven Mex and Mid-Continent Petroleum Corp.'s No. 1 Woodward. NE cor. SE NE NE, Section 14-2s-8w, has been abandoned at 2,255 feet.

Jefferson County

Superior Oil Corp. has the rig up for No. 1 Nesmith, SW cor. SE SE, Section 2-7s-7w.

Cotton County

Baldwin & Sultan's No. 3 Rhone, SW cor. SE SE, Section 35-1s-10w, is rigging up. Silurian Oil Co. and Perkins & Cullum's No. 3 Chambers. NE cor. SE NE NW, Section 2-2s-10w, is rigging up rotary. Wirt Franklin Petroleum Corp.'s No. 1 Chambers, NE cor. SW SE, Section 35-1s-10w, is rigging up.

Silurian Oil Co. and Perkins & Cullum's No. 2 Chambers, NE cor. SE NW NW, Section 2-2s-10w, has been completed for 30 bbls. in sand 2,155-60 feet. Silurian Oil Co.'s No. 9 Chambers. CNL SE NW, Section 2-2s-10w. is pumping 40 bbls. from sand 2,160-74 feet. No. 7 Chambers, SE cor. NW NW, Section 2-2s-10w, made 55 bbls. from sand 2,158-72 feet. Amerada Petroleum Corp.'s No. 1 De Lana, SE cor. NW NW. Section 31-4s-9w, is dry and abandoned at 3,348 feet.

Wagoner County

James Sewell and others' No. 1 Denton, NE cor. SE SW Section 13-17-15, is drilling at 150 feet. G. Longacre and others' No. 1-A Kelly, SE cor. NW SW SW Section 15-17-16, is rigging up.

Barnes & Hanks' No. 19 R. Smith, SW cor. SE NW SW, Section 9-18-15, has been completed for 12 bbls. in sand 1.213-26 feet. H. H. Taylor & W. C. Hatch's No. 2 Luckey, SW cor. Section 11-18-15, is dry and abandoned at 1,203 feet. F. Loesing's No. 2 M. Mantooth, NW cor. SW NE Section 16-18-16. has been abandoned at 679 feet. Ash Brothers' No. 1 E. Love, SE cor. NE SW, Section 15-18-17. has been completed for 4 bbls. in sand 830-48 feet.

Kiowa County

Russel & Sloan's No. 1 Funkhouser, C NW, Section 23-7-17w, is dry and abandoned at 2 307 feet.

PRODUCTION OF SEMINOLE AREA

Production of pools in the Seminole area by companies and leases for August 16 follows:

Little River Pool

Company, farm—	Location	Wells	Prod.
Amerada:			
Hotulke	22-7-6	1	1
Nitey	2-7-6	3	276
Amerada-Wilcox:			
Fore	35-8-6	2	625
Barnsdall:			
Cotcha	23-7-6	2	1,083
Hotulke	22-7-6	3	815
Walker	4-7-6	1	9
Blackwell:			
Baker	11-7-6	4	880
Nitey	35-8-6	5	212
Talley	14-7-6	4	944
Bryan & Emery:			
Walker	4-7-6	1	13
Carter:			
Cotcha, M.	23-7-6	3	68
Cudjo, L.	23-7-6	2	348
Fish	36-8-6	4	575
Harjo, C.	11-7-6	3	2,283
Harjo, M.	13-7-6	4	485
Jackson	11-7-6	4	647
Larney, B.	26-7-6	2	423
Larney, J.	24-7-6	4	1,671
Lena	10-7-6	1	420
Moore	11-7-6	2	127
Tewee	14-7-6	6	888
Thomas	11-7-6	1	356
Walker, J.	24-7-6	1	913
Wilson	12-7-6	1	200
Champlin:			
Tewee	14-7-6	2	815
Continental:			
Cosar	36-8-6	7	771
Cosar, M.	25-8-6	1	311
Continental & Fisher:			
Milsey	11-7-6	2	313
Continental & Shaffer:			
Harrison	4-7-7	1	828
Empire:			
Charty	24-7-6	1	59
Coker	13-7-6	2	474
Cotcha	27-7-6	2	33
Sandlin	3-7-6	1	9
Gypsy:			
Brown, C.	33-8-6	2	423
Brown, M.	33-8-6	1	948
Campbell	33-7-6	2	Off
Conrad	22-7-6	2	235
Cosar, W.	36-8-6	2	191
Cotcha	23-7-6	13	3,514
Denmark	11-7-6	3	861
Hulhoke	14-7-6	10	945
Mungee	1-7-6	1	Off
Payne	5-7-7	3	1,788
Pottie	35-8-6	4	268
Renton	11-7-6	3	142
Independent:			
Carpenter	27-7-6	3	525
Davis, R.	13-7-6	4	1,427
Reed	26-7-6	1	18
Tewee	14-7-6	6	993
Williams	15-7-6	1	519
Independent & Highway:			
Harris	23-7-6	9	1,580
Independent & White Eagle:			
Davis	2-7-6	4	459
I. T. I. O.:			
Campbell	1-7-6	1	201
Dungan	35-8-6	3	302
House, M. A.	1-7-6	1	37
House, W. E.	1-7-6	1	13
House, "B"	2-7-6	4	552
Hull	26-8-6	3	345
Jackson	1-7-6	3	84
McCulla	1-7-6	3	595
Nitey	2-7-6	5	119
Phoebe "A"	36-8-6	3	24
Phoebe "B"	36-8-6	3	10
Reed	1-7-6	1	Off
Soketheche	1-7-6	3	159
Magnolia:			
Cruse	2-7-6	4	115
Denby	11-7-6	4	216
Harjo, A.	14-7-6	2	65
Harjo, B.	14-7-6	3	178
Pottie	35-8-6	4	34
Reed, E.	31-8-7	1	34
Reed, I.	22-7-6	3	355
McCulloch & Sands:			
Harrison	4-7-6	1	Off
Mid-Continent:			
Brunner	11-7-6	4	143
Eleck	23-7-6	1	14
Smith	5-7-7	9	16,127
Wadsworth	36-8-6	4	111
W. B. Pine:			
Hoyecha	26-8-6	7	1,839
Pine-Phillips:			
Pottie	35-8-6	1	70
Prairie:			
Chilcoat	25-8-6	3	481
Coker	1-7-6	2	640
Gibson	14-7-6	5	724
Harris	14-7-6	4	1,080
House	2-7-6	4	116
Johnson	24-7-6	2	1,080
Lustey	5-7-7	2	47
Moppin	24-7-6	2	208
Reed	13-7-6	2	797
Talley	14-7-6	4	686
Thomas	5-7-7	1	124
Williams	15-7-6	2	81
Wood	26-7-6	3	254
Carr	9-7-7	1	612
Prairie & Amerada:			
Sunny	14-7-6	5	835
Prairie & Sick:			
Cudjo	26-7-6	4	692
Pure:			
Brinson	24-7-6	3	1,152
Cotcha	14-7-6	10	1,790
Harjo	11-7-6	4	1,032
Hollins	11-7-6	1	482
Reiter-Foster:			
Bunyard	14-7-6	4	506
Jefferson	31-7-6	1	12
McCann	33-7-6	1	38
Shaeffer:			
Narcombe	26-8-6	2	71
Shell:			
Caesar	11-7-6	1	81
Glass	26-7-6	1	5
Hotulke	23-7-6	4	509
Johnson	13-7-6	4	1,194
Sinclair:			
Blanton	11-7-6	1	293
Cosar	30-8-6	3	848
Haney	12-7-6	1	67
Phillip	5-7-7	1	1,790
Tewee	14-7-6	2	1,894
Sinclair & Kingwood:			
Pompey	24-7-6	1	162
Skelly:			
Carl	14-7-6	2	1,502
Snowden-McSweeney:			
Tiger	13-7-6	2	110
Superior:			
Potulka	31-8-6	1	3
Texas:			
Brooks	25-8-6	1	10
Coker	1-7-6	3	6
Coker	11-7-6	6	1,034
Janey			
Texas & Independent:			
Hutulke	23-7-6	5	1,180
Hutulke	22-7-6	3	537
Tidal:			
House	1-7-6	1	350
Johnson	1-7-6	1	19
Twin State:			
Lowe	25-8-6	1	57
Total		354	79,154

Earlsboro Pool

Company, farm—	Location	Wells	Prod.
Amerada:			
Anderson	15-9-5	2	222
Cowden	4-9-5	7	900
Rogers	3-9-5	2	78
Atlantic & Sinclair:			
Foreman	18-9-5	1	110
Barnsdall:			
Brown	10-9-5	3	963
Bruner, F.	2-9-5	2	162
Bruner, N.	10-9-5	1	246
Cudjo	14-9-5	1	23
Davis, D.	11-9-5	3	109
Davis, J.	11-9-5	4	1,180
Davis, M.	11-9-5	2	24
Gibson	9-9-5	7	736
Horn	15-9-5	1	1
Ingram	1-9-5	6	295
Pack, S.	10-9-5	4	75
Peter	10-9-5	3	61
Sango	1-9-5	2	1,368
Sebaika	15-9-5	1	143
Sullivan, H.	11-9-5	1	3
Sull-Harjo	10-9-5	2	13
Wasutke	12-9-5	3	478
Burke-Greis:			
Wisner	6-9-6	2	333
Burke-Greis & Red Bank:			
Mays	1-9-5	3	1,631
Carter:			
Davis	13-9-5	3	8
James	6-9-6	3	1,622
Carter et al:			
Gilliam	13-9-5	2	1,252
Continental:			
Kays	2-9-5	2	59
Spencer	12-9-5	4	601
Cosden, J. S., Inc.:			
Anderson	13-9-5	1	2,160
Barber	13-9-5	1	85
Empire:			
Barker	12-9-5	1	35
Edmondson	3-9-5	2	17
Empire & Mariand:			
Anderson	13-9-5	2	413
Empire & Amerada:			
Bullock	8-9-5	2	921
Gypsy:			
Bruner	10-9-5	4	1,110
Carter, B.	11-9-5	7	1,837
Earl	16-9-5	1	12
Hunick	5-9-5	2	1,468
Lottie	31-10-6	1	Off
Noble	12-9-5	4	732
Payne	18-9-6	1	4,322
Peter	10-9-5	1	60
Sango	1-9-5	13	2,013
State	16-8-5	3	168
Wisner	13-9-5	1	52
Independent:			
Bruner	10-9-5	3	181
Sullivan	10-9-5	1	13
Knapp	8-9-5	2	1,134
Indep.-Margay:			
Gains	11-9-5	3	140
Magnolia:			
Anderson, A.	18-9-6	4	13,390
Anderson, A. W.	18-9-6	2	6,956
Bryant	9-9-5	6	42
Cowden	4-9-5	1	18
Dixon	12-9-5	1	14
Edmondson	3-9-5	1	4
Germany	30-9-5	1	10
Gilliam	13-9-5	3	2,215
Holmsley	11-9-5	6	6
Hyde	13-9-5	2	11
Ingram	10-9-5	1	14
Lena	10-9-5	3	39
Moore	24-9-5	1	771
Seay	12-9-5	9	119
Simpson	10-9-5	4	216
Sparks	11-9-5	6	89
Sullivan	12-9-5	3	93
Mid-Continent:			
McCumber	9-9-5	4	44
Rogers	5-9-5	4	2,961
Mid-Kansas:			
Anderson	14-9-5	1	34
Phillips:			
Dunaway	14-9-5	1	20
Reede	8-9-5	1	532
Prairie:			
Baker	24-9-5	4	753
Calkins	17-9-6	1	5,500
Davis	13-9-5	3	464
Graham, C.	3-9-5	1	Off
Graham, O.	10-9-5	4	790
James	6-9-6	2	Off
Raitman	18-9-6	1	2,902
Stidham	11-9-5	9	845
Prairie & Skelly:			
Campbell	6-9-6	7	2,710
Prairie & Whitney:			
Harjo	24-9-5	1	7
Shaffer:			
Clark	1-9-5	2	151
Shell:			
Bayless	17-9-5	1	11
Hearn	13-9-5	1	46
Spencer	12-9-5	2	1,400
Sinclair:			
Alexander	36-10-5	1	668
Foreman	18-9-5	1	15
Hollins	12-9-5	1	3
Miller	24-9-5	1	695
Sango	2-9-5	4	1,308
Skelly:			
Mays	1-9-5	4	330
Shepard	6-9-6	4	1,787
Spencer	12-9-5	1	139
Skelly & Atlantic:			
Cherry	6-9-6	4	265
Lottie	6-9-6	4	934
Varnum	5-9-6	1	471
Superior:			
Ingram	1-9-5	2	1,131
Songster	8-9-5	1	665
Walker	2-9-5	2	1,145
Texas:			
Anderson	2-9-5	8	93
Brown	10-9-5	8	92
James	6-9-6	3	219
Rogers	5-9-5	5	844
Wimott	10-9-5	6	82
Tidal:			
Walker	35-10-5	2	1,428
Watkins	9-9-5	7	1,905
Twin States:			
Barker	12-9-5	3	33
Hern	2-9-5	2	46
Total		309	78,563

Carr City Pool

Company, farm—	Location	Wells	Prod.
Amerada:			
Rees	12-8-5	1	61
Barnsdall:			
Coker	11-8-5	9	1,923
Fife	14-8-5	2	172
Tully	10-8-5	1	74
Carter:			
Coker	2-8-5	2	2,355
Rogers	2-8-5	1	12
Empire:			
Cluck	11-8-5	12	4,186
Gypsy:			
Coker	10-8-5	1	12
Coker, C.	2-8-5	1	1,042
Fife	14-8-5	1	15
I. T. I. O.:			
Simpson	10-8-5	1	1
Tully	10-8-5	1	5
Magnolia:			
Fee	11-8-5	3	576
Killing	14-8-5	1	5
Prairie:			
Billington	11-8-5	10	1,788
Mitchell	15-8-5	1	65
Sinclair:			
Bean	11-8-5	3	295
Harjo	11-8-5	3	573
Total		53	13,151

Maud Pool

Company, farm—	Location	Wells	Prod.
Amerada:			
Ballard	1-8-4	1	60
Fehlig	7-8-5	1	63
Gossland	8-8-5	3	150
Gravel	1-8-4	1	14
Hallum	1-8-4	4	1,741
Amerada & Barnsdall:			
Wallace	17-8-5	4	324
Amerada & Hull:			
Green	20-8-5	3	139
Continental & Shell:			
Everetts	13-8-5	2	57
Darby:			
Ketcham	19-8-5	1	Off
Empire:			
Smith	8-8-5	2	1,721
Gypsy:			
Bourassa	7-8-5	4	52
Gossland	7-8-5	1	1,478
Miller	18-8-5	8	533
Smith	20-8-5	1	119
Independent:			
Harding	18-8-5	5	210
I. T. I. O.:			
State	16-8-5	1	92
Laurel O. & G.:			
Billington	18-8-5	3	133
Magnolia:			
Billington	8-8-5	4	78
Green	20-8-5	3	195
Mid-Continent:			
Shelton	18-8-5	3	41
Phillips:			
Hudson	19-8-5	4	188
Wallace	17-8-5	2	98
Pine:			
Lingefelt	18-8-5	2	39
Smith	8-8-5	1	263
Prairie:			
Campbell	18-8-5	8	138
Prairie & White Eagle:			
Villines	20-8-5	1	11
Pure:			
Lindly	18-8-5	8	344

Company; farm—	Location	Wells	Prod.
Urbansky	19-8-5	2	64
Wiley	8-8-5	4	1,103
Shell:			
Jordan	9-8-5	1	169
Sinclair:			
Bellars	19-8-5	10	542
Calvin	7-8-5	3	227
Lewis	6-8-5	2	73
Skelly & Lenox:			
Green	20-8-5	1	233
Skelly & Margay:			
Lingefelt	18-8-5	4	162
Texas:			
Calvin	7-8-5	8	232
Tidal:			
Dunn	12-8-4	1	46
Everett	18-8-5	2	65
Smith	8-8-5	1	113
Twin State:			
Caivin	7-8-5	2	111
Wilcox:			
Smith	8-8-5	5	1,389
Total		127	13,028

Mission Pool

Amerada:			
Rice	5-8-6	2	894
Carter:			
Fuswa	18-8-6	3	654
Melisse	9-8-6	1	479
Micco	8-8-6	2	488
Continental:			
Manning	7-8-6	4	998
Darby:			
Judy	1-8-5	1	48
Gypsy:			
Baby	6-8-6	1	15
Barkus, N.	6-8-6	10	4,979
Barkus, S.	7-8-6	1	47
Dosar	7-8-6	5	1,112
Hardy	7-8-6	7	288
Harjoche	7-8-6	4	94
Micco, L.	8-8-6	2	39
Micco, S.	8-8-6	1	1
Mission 5 and	6-8-6	7	1,640
Mosar	1-8-5	4	889
Independent:			
Lawson	1-8-5	5	1,289
Inderendent & Kistler:			
Payne	7-8-6	4	1,201
McMahon et al:			
Harjo	7-8-6	2	769
Mid-Continent:			
Ripley	13-8-5	1	101
Mid-Kansas:			
Moore	7-8-6	1	Off
Minnehoma:			
Neal	7-8-6	4	520
Pine:			
Harjo	6-8-6	2	646
Micco	8-8-6	1	25
Prairie:			
Crain	7-8-6	1	161
Melton	6-8-6	3	1,139
Micro	5-8-6	1	7
Townsend	6-8-6	1	1,189
Prairie & Slick:			
Nelly	12-8-5	1	41
Prairie & Gypsy:			
Owens	18-8-6	1	391
Shaffer:			
Weaver	12-8-5	3	1,307
Shell & Continental:			
Herndon	7-8-6	3	1,010
Shell & Papoose:			
Maines	7-8-6	8	1,054
Sinclair:			
Hardy	7-8-6	4	955
Sinclair & Lenox:			
Judy	1-8-5	1	58
Tidal:			
Nelly	12-8-5	5	1,648
Twin State:			
Hayes	8-8-6	2	1,349
Judy	6-8-6	2	795
Ripley	12-8-5	2	183
Total		114	28,505

Bowlegs Pool

Amerada:			
Roscoe	15-8-6	6	745
Atlantic:			
Baker	10-8-6	4	252
Fleet	23-8-6	3	48
Grayson	13-8-6	4	352
Jones, A.	16-8-6	2	15
Jones, C.	9-8-6	1	30
Barnsdall:			
McNac	28-8-6	1	22
Murrow	11-8-6	4	285
Carter Oil:			
Bowlegs	15-8-6	4	402
Burden	23-8-6	2	224
Harjoche	14-8-6	6	458
Hilly	23-8-6	3	227
Jones	11-8-6	4	469
Walker	15-8-6	4	443
Wise	23-8-6	11	1,286
Dixie:			
Culley	11-8-6	1	34
Empire:			
Lacy	14-8-6	6	243
Wise	23-8-6	2	153
Gypsy:			
Bowlegs	22-8-6	1	2
Cumsey	10-8-6	4	553
Grayson	13-8-6	4	399
Harjoche	10-8-6	3	219
Jones	11-8-6	1	66
Walker	15-8-6	7	1,035
Wise	23-8-6	2	149
I. T. I. O.:			
Barnett	24-8-6	2	86
Barnett "B"	23-8-6	1	26
Billington	22-8-6	3	322
Bowlegs	22-8-6	9	1,338
Davis	13-8-6	4	82
Fay	13-8-6	9	902
Goforth	15-8-6	12	1.175
Livingston	15-8-6	10	1,351
Lizzie	13-8-6	3	39
Walker	15-8-6	8	1,165
Williams	12-8-6	1	149
Wilmott	15-8-6	4	472
Work	24-8-6	1	60
Younghlood	24-8-6	2	38
Davis	13-8-6	3	319
Davis, M.	13-8-6	1	47
Magnolia:			
Hammond	10-8-6	8	488
Rhodes	12-8-6	5	405
Van Buskirk	9-8-6	4	374
McCulloch:			
Bowlegs	22-8-6	2	84
Mid-Continent:			
Baker	10-8-6	4	139
Smith	12-8-6	6	533
Minnehoma:			
Bowlegs	15-8-6	3	63
Prairie:			
Gahagan	23-8-6	3	220
Harber	10-8-6	8	1,351
Jones, N.	3-8-6	1	198
Jones, G.	11-8-6	3	155
Templeton	12-8-6	4	1,891
Whitney	23-8-6	4	337
Pure Oil:			
Reed	14-8-6	14	2,407
Strother "D" 11 and	14-8-6	4	368
Strother "F"	10-8-6	7	2,075
Shaffer:			
Lacy	14-8-6	3	376
Shell:			
Taylor	16-8-6	5	30
Sinclair:			
Cumsey	10-8-6	4	850
Ellen	11-8-6	5	616
Harjo	14-8-6	3	681
Jones	9-8-6	7	331
Taylor	10-8-6	4	660
Taylor, W.	10-8-6	3	502
Walker	22-8-6	4	680
Texas:			
Reed	14-8-6	11	699
Tidal:			
Grayson	13-8-6	4	438
Harjoche	10-8-6	6	870
Total		300	32,613

Seminole Pool

Amerada:			
Fixico	23-9-6	2	89
Killingsworth	23-9-6	4	509
Rentie	23-9-6	3	327
Atlantic:			
Cudio, N.	35-9-6	3	376
Barnsdall:			
Carter	24-9-6	6	219
Henry	14-9-6	2	445
Jones	34-9-6	4	459
Carter Oil:			
B. Carter	24-9-6	2	43
F. Carter	23-9-6	3	75
Creamer	34-9-6	1	8
Cudjo, R.	35-9-6	4	155
Cudio, W.	34-9-6	1	100
Gilliland	27-9-6	1	143
Grisso	23-9-6	4	166
Grisso, M.	15-9-6	1	226
Killings, G. F.	14-9-6	4	43
Killings, M. E.	23-9-6	12	4,006
Knapp	13-9-6	1	31
Lukes	27-9-6	5	974
Maunder	34-9-6	2	178
Simpson	35-9-6	2	99
Strothers	34-9-6	4	326
Vierson	23-9-6	1	16
Sanford	16-9-6	1	232
Empire:			
Cress	25-9-6	1	45
Wilson	34-9-6	2	230
Gypsy:			
Butler	35-9-6	4	927
Carter	24-9-6	8	857
Cudjo	34-9-6	4	463
Fixico	26-9-6	7	64
Harjo	25-9-6	3	152
Wolfe	26-9-6	5	536
Independent:			
Fixico, P.	23-9-6	3	472
Harjo	25-9-6	2	33
Butler	35-9-6	3	556
Fixico, T.	26-9-6	5	276
Jones	26-9-6	4	320
I. T. I. O.:			
Allen	25-9-6	2	41
Bowlegs	26-9-6	12	1,995
Goodin	23-9-6	4	254
Harjo	23-9-6	3	45
James	24-9-6	2	56
Reed	24-9-6	1	6
Kingwood:			
Johnson	22-9-6	3	466
Magnolia:			
Boren	2-8-6	1	4
Franks	25-9-6	3	192
Mid-Continent:			
Rentie	14-9-6	9	476
Tawache	24-9-6	7	138
Phillips:			
Strothers	27-9-6	2	84
Prairie:			
Cudjo	35-9-6	3	469
Franks	35-9-6	6	436
Giblet	35-9-6	3	1,268
Gross	25-9-6	5	33
Mason	36-9-6	1	40
Spencer	13-9-6	1	6
Strothers	27-9-6	8	1,724
Tiger	1-8-6	1	21
Pure Oil:			
Strothers	26-9-6	17	4,242
Strothers, R.	36-9-6	4	881
Strothers, C.	34-9-6	1	364
Shell:			
Harper	29-9-6	1	175
Lasley	22-9-6	2	30
Sinclair:			
Carter	13-9-6	2	22
Cudjo "A"	35-9-6	6	655
Cudjo "B"	35-9-6	4	473
Dyer	22-9-6	2	410
Fixico	23-9-6	4	464
Superior:			
Cudjo	35-9-6	4	104
Noble	15-9-6	1	1
Texas:			
Mayhue	14-9-6	1	4
Strothers	2-9-6	1	61
Tidal:			
Carter	24-9-6	4	51
Fixico	26-9-6	7	1,397
Harjo	25-9-6	1	15
Harjo, T.	23-9-6	3	49
Turman:			
Cudjo	35-9-6	4	628
Grisso	35-9-6	1	Off
Jones	34-9-6	4	1,075
Total		273	32,941

East Seminole Pool

Barnsdall:			
Ke-pa-ya	7-9-7	1	19
Continental:			
Boenig	17-9-7	1	44
Continental:			
Johnson	18-9-7	1	1,413
Perry	18-9-7	2	582
Devonian:			
Harjo	18-9-7	1	17
Gypsy:			
Harjo	18-9-7	1	180
Magnolia:			
Drewery	18-9-7	2	9
Prairie:			
Stubbs	18-9-7	2	15
Shaffer:			
Hengler	19-9-7	1	14
Sinclair:			
Bob Coody	18-9-7	1	1,377
D. Coody	17-9-7	1	167
Johnson, B.	18-9-7	1	6
Johnson, G.	18-9-7	1	26
Thompson, B.	18-9-7	1	810
Warrior, J.	17-9-7	1	39
Warrior, S.	17-9-7	1	67
Total		19	4,939

Searight Pool

Amerada:			
Johnson	4- 9-6	1	8
Nicey	3- 9-6	1	25
Strothers	3- 9-6	2	249
Barnsdall:			
Johnson	22-10-6	1	38
Jackson	5- 9-6	2	27
Burke-Greis:			
Varnum	32-10-6	1	469
Carter:			
Davis	4- 9-6	3	169
I. T. I. O.	11- 9-6	1	345
Frazier	3- 9-6	5	712
Mayhue	11- 9-6	1	1,495
Kiker	2- 9-6	1	16
Skiff	10- 9-6	1	100
Maudler	3- 9-6	2	5
Slick	11- 9-6	1	1,000
Scott	28-10-6	1	10
Steward	10- 9-6	1	315
Carter et al:			
Strothers	11-9-6	2	1,326
Gypsy:			
Cudjo	4- 9-6	3	453
Neyins	32-10-6	3	98
Magnolia:			
Varnum	32-10-6	3	489
W. F. Varnum	5- 9-6	1	47
Mid-Continent:			
Grayson	34-10-6	4	22
Laloche	33-10-6	6	413
Magnolia and Honia Okla:			
Nevins	32-10-6	4	1,104
Papoose:			
Marks	32-10-6	1	421
Pine:			
Lula	4- 9-6	1	14
Prairie:			
Cannon	33-10-6	1	2
J. Carter	10-9-6	1	3
Finch	33-10-6	1	2
Hurford	33-10-6	1	14
Kincaid	33-10-6	2	56
Wimer	22-10-6	1	15
Pure:			
Aldridge	3- 9-6	3	720
Shell:			
Strothers	3- 9-6	4	181
Crump	32-10-6	1	Off
Sinclair:			
Polly	3- 9-6	4	1,289
Superior:			
Varnum	4- 9-6	1	20
Texas:			
Fleet	4- 9-6	1	12
Twin States:			
Varnum	4- 9-6	2	125
Wilcox:			
Chupco	4- 9-6	7	261
Total		84	12,078

PRODUCTION OF ST. LOUIS POOL

Production of St. Louis Pool by companies and leases for August 16 follows:

Company, farm—	Location	Wells	Prod.
Amerada:			
Richardson	16-7-4	1	28
Atlantic-Indep.:			
Burke	16-7-4	1	495
Mildrum	15-7-4	1	147
Barnsdall:			
Stahl	30-7-5	3	754
Darby:			
Standridge	10-7-4	1	84
Blackwell-Cmar:			
Cherry	25-7-4	3	655
Lewis	24-7-4	2	131
Carter:			
Akin	2-7-4	1	12
Darby:			
Nixon	9-7-4	2	109
Youngblood	16-7-4	2	882
Empire:			
Bettis	17-7-4	1	267
State	36-7-4	1	160
Gypsy:			
Bruno	25-7-4	4	88
Collins	25-7-4	4	592
Dodson	24-7-4	4	126
Greco	17-7-4	3	1,990
LeClair	23-7-4	4	1,802
Roseman	26-7-4	4	537
Stahl	30-7-5	8	414
Home Gas:			
Town Lot	14-7-4	1	255
Huston:			
Wyatt	17-7-4	2	936
Independent:			
Borrow	1-7-4	2	506
Brandin	30-7-5	5	858
Youts	19-7-5	8	6,340
Indep.-Darby:			
Pappen	16-7-4	1	842
Indep.-Skelly:			
James	17-7-4	1	508
Indep.-Westland:			
Booze		1	28
Rhodd	16-7-4	4	1,690
Inter-Ocean:			
McGee	23-7-4	6	116
I. T. I. O.:			
Shobe	35-8-4	1	229
McGee	26-7-4	1	116
Irwin & Martin:			
Kelly	2-7-4	3	1,269
Magnolia:			
Banta	14-7-4	3	251
Brandenburg	18-7-5	5	1,442
Caudle	13-7-4	1	72
Cherry-A	26-7-4	5	585
Cherry-B	26-7-4	3	215
G. W. Fyke	20-7-5	1	471
G. W. Fyke B	20-7-5	2	394
Tull Fyke B	20-7-5	2	508
Tull Fkye D	29-7-5	2	269
Harden	12-7-4	2	309
Hembree	19-7-5	4	266
Jones	18-7-4	1	89
Latimer	17-7-4	2	339
Richardson	15-7-4	1	81
J. M. Robbins	15-7-4	4	216
Pearl Robbins	15-7-4	1	56
Mary Wilborn	24-7-5	2	505
S. A. Wilborn	24-7-4	5	217
Chas. Youts	20-7-5	5	354
C. A. Youts	19-7-5	4	547
H. F. Youts	20-7-5	7	2,698
Magnolia-Pierce:			
Hubanks	17-7-4	2	1,093
McCullough-Blackwell:			
Bruno	25-7-4	5	912
McCullough-Mid-Cont.:			
Smith	25-7-4	6	884
Mid-Continent:			
Decker	8-7-4	1	120
Robbins		1	15
Mid-Kansas:			
Getzleman	25-7-4	4	928
Luney	30-7-5	3	361
Minnehoma:			
Simms	16-7-4	1	465
Packard:			
Church	29-7-5	1	458
Phillips:			
Cherry	25-7-4	2	131
Grace	2-7-4	1	94
Stahl	30-7-5	4	708
Prairie:			
Desmond	25-7-4	4	122
Fillson	25-7-4	4	389
Gammon	30-7-5	8	2,711
Hembree	19-7-5	4	1,759
Linn	30-7-5	4	703
Wolfe	29-7-5	4	2,400
Youts	19-7-5	4	233
Prairie et al:			
Davis	18-7-5	4	74
Prairie-Maud:			
Neshit	18-7-5	2	263
Prairie-Shaffer:			
Cummings	17-7-4	2	684
Pice	17-7-4	1	431
Reagan	17-7-4	1	1,554
Pure:			
Dodson	24-7-4	2	125
Thomas	26-7-4	4	5,592
Tolen	1-7-4	1	146
Shaffer:			
Cherry	23-7-4	4	109
Tolen	30-7-5	4	432
Sinclair:			
Brandin	24-7-4	13	1,196
Brandenburg	7-7-5	3	839
Bruno	26-7-4	2	1,864
Gilbreath	25-7-4	2	859
Nadash	29-7-5	4	460
Nealy	25-7-4	6	628
Nealy B	25-7-4	2	640
Nesbit	18-7-5	8	2,025
O'Kitchee	19-7-5	7	355
Sinclair-McGrow:			
Kelly A	2-7-4	1	1,048
Sunerior:			
Jackson	36-8-4	1	81
Texas:			
Cherry	25-7-4	4	608
Warner-Quinlan:			
Light	18-7-4	1	Off
Westheimer-Daube:			
Fried	24-7-4	5	628
Small Pumpers		110	3,282
Total		408	71,259

Asher Pool

Commerce Devl.:			
Townsite	19-6-4	1	35
Inden-Twin State:			
Gardner	19-6-4	1	185
Prairie-Slick:			
Lester	19-6-4	4	2,325
Simms:			
Lester	19-6-4	3	7,263
Slick:			
Alexandra	19-6-4	1	95
Pledsoe	20-6-4	1	352
Weldon	20-6-4	2	324
Slick-Amerada:			
Walker	19-6-4	1	386
Texola:			
Townsite	19-6-4	1	141
Total		15	11,106

North Sasakwa Pool

Carter:			
Phillin	18-8-8	1	55
Snellman	9-6-8	1	14
Prairie:			
Patton	18-6-8	1	..
Shell:			
Holatka	7-6-8	1	1,399
Signal:			
Bond	13-6-7	1	136
Sinclair:			
I. Davis A	7-6-8	4	5,902
Texas:			
Bryan	9-6-8	1	70
Twin State:			
Marshall	6-6-8	1	Off
Total		11	7,576

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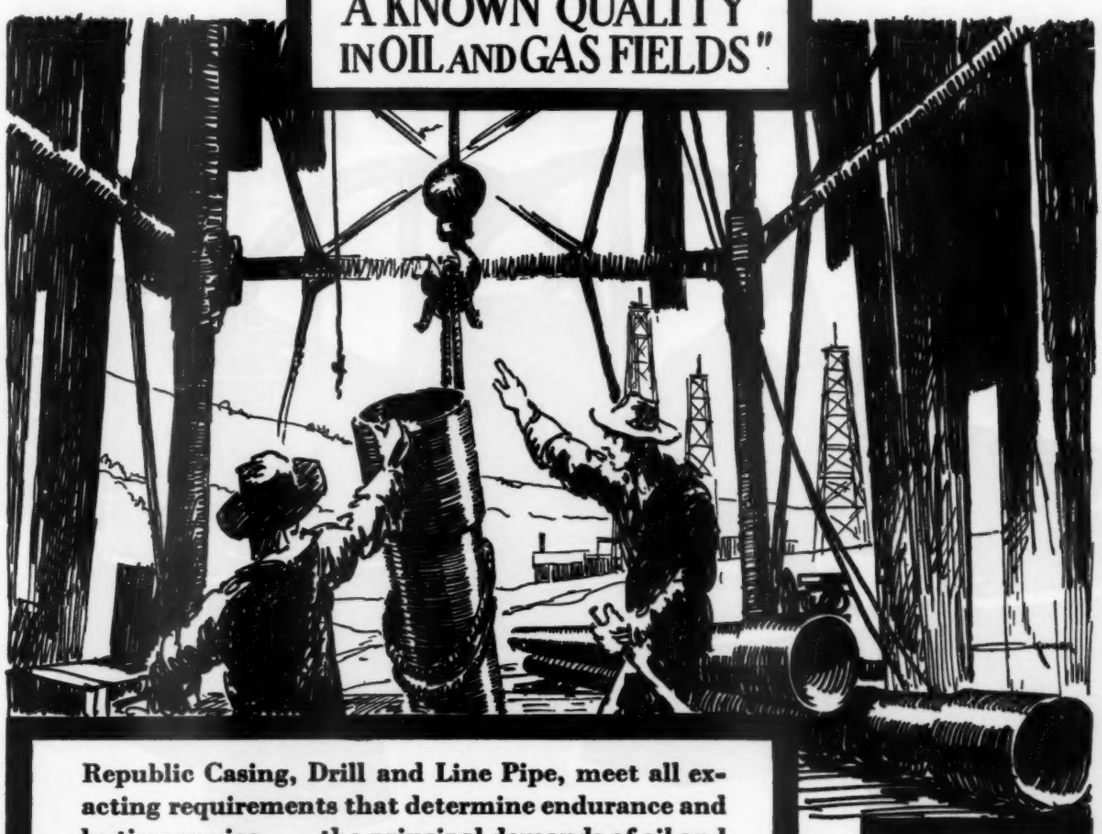

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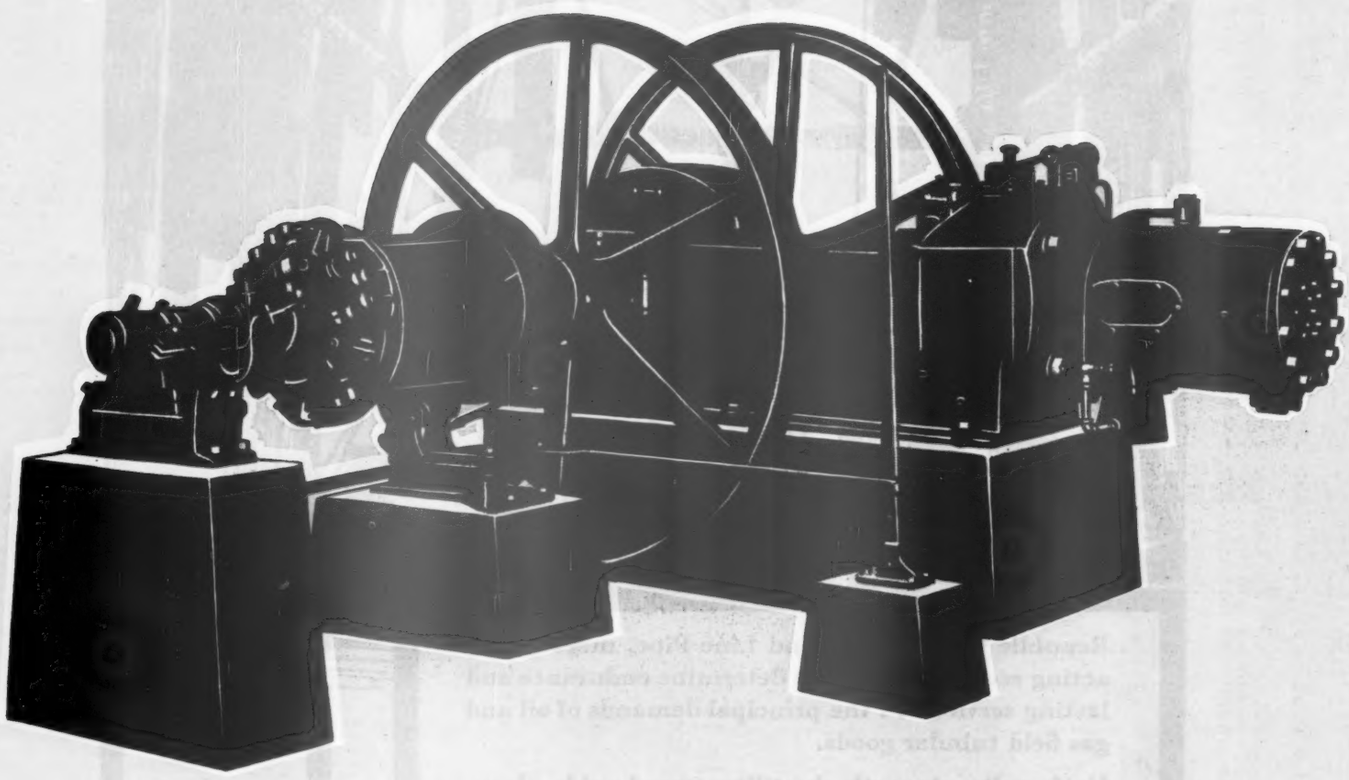

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BESSEMER

PUMPING AND DRILLING ENGINES BY COOPER-BESSEMER

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Because of their satisfactory performance "Bessemer" pumping and drilling engines have become well known and liked by oil and gas field men. The design of these engines is the result of over thirty years engineering study and constant improvement.

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TYPE O. F. PUMPING ENGINES

Gordon Oil Co. Gets an 80 Bbl. Well

Its Clinton Sand Producer on Anthony Farm in Hocking County, Ohio, Best Completion of Week in Eastern Fields

By D. S. Wakenight
Staff Correspondent, Eastern Fields

PITTSBURGH, Pa., Aug. 19.—Southeast Ohio provided all the good producers in the eastern fields the last week and there were few of them. In the SE Section 14, Washington Township, Hocking County, the Gordon Oil Co. has completed and shot in the Clinton sand No. 6 on the George Anthony farm. It produced 80 bbls. the first 24 hours. The total depth is 2,928 feet. In Section 24, Green Township, the Griffin Producing Co. is drilling a second test on the S. Nutter farm. In Section 33, Falls Gore Township, the same company is building a rig on the Dora Thomas farm.

In the NW Section 18, Green Township, Hocking County, the Preston Oil Co. completed and shot in the Clinton sand No. 10 on the Eliza J. Price farm. It produced 85 bbls. the first 24 hours.

In Section 25, Bethel Township, Monroe County, the Sylvania Producing Co. has a 2-bbl. pumper in the Big Injun sand at No. 3 on the C. W. Windland farm. In the NE Section 5, Jefferson Township, Noble County, J. B. Richardson and others have completed in the Macksburg 500-foot sand a test on the Wiper heirs farm. It is a very light pumper.

Meigs County

In the NW Section 11, Sutton Township, Meigs County, Smith & Waterson have completed in the Cow Run sand a test on the A. E. Carnehan farm. It is a 10-bbl. pumper. In Lot 283, same township, B. M. Tyree has a 5-bbl. pumper in the Berea grit at No. 3 on the J. N. Camden farm.

In Lot 282, Sutton Township, the Preston Oil Co. has completed in the Berea grit a second test on the Robert Crew farm. It is a 4-bbl. pumper. In the SW of Lot No. 283, same township, B. M. Tyree has completed No. 4 on the J. N. Camden farm. It is a 2-bbl. pumper in the same formation. In the southern part of Lot 283, Sutton Township, the Southern Ohio Petroleum Co. has a 4-bbl. pumper at a test on the R. B. Sellers farm. In the NE Section 32, Bedford Township, the Onio Fuel Supply Co. has completed a second test on the John Heitzer farm. It is a gasser good for 500,000 feet.

Drilling Tests

In Section 12, Sutton Township, S. A. Palmer and others are drilling a test on the Chapman Hall farm. In the same township, B. M. Tyree is drilling another test on the William R. Lott farm. In Lot 1,206, Sutton Township, Keith Thompson and others are drilling a test on the Price Wolfe farm.

In the SW Section 10, Jackson Township, Perry County, J. Elder and others have completed in the Berea grit a test on the D. A. Clark farm. It is a light gasser. In the NW Section 28, Island Creek Township, Elliott and others have a duster in the Berea grit at a test on the Samuel Watt farm.

Jefferson County

In Cross Creek Township, Jefferson County, local men have completed a test on the Jefferson County Infirmary property and have a light pumper in the Berea grit. They will drill more wells on this property and may develop some new producing territory. It is in a district that has not been closely tested.

In Section 35, Knox Township, Columbiana County, George Kiel has completed in the Berea grit a test on the John Anderson farm. It is a duster.

In Section 10, Wheeling Township, Guernsey County, Blackstone & Co. have a 5-bbl. pumper in the Clinton sand at a test on the J. Calloway farm. In Section 8, Cambridge Township, the Ohio Fuel Gas Co. has a plugged hole on top of the Clinton sand at a test on the Grace Miller farm. In the same township, the same company has a rig up for a test on the Fannie D. Brown farm and is drilling a test on the Charles Cooper farm.

WEST VIRGINIA

The West Virginia fields had several completions, none better than light pumpers. All are in defined territory.

On Leatherwood Creek, Big Sandy district, Kanawha County, located 6,500 feet north of the United Carbon Co.'s No. 10 on the Osborne farm, the United Fuel Gas Co. has completed No. 2,551 on the King Land Co.'s property. It is a gasser in the Weir sand good for 500,000 feet.

In Geary district, Roane County, the Virginian Gasoline & Oil Co. has completed No. 3 on the W. C. Tallman farm. It is a 2-bbl. pumper in the Big Injun sand. On Breeden Creek, Harvey district, Mingo County, the Public Gas Corp. has started to drill deeper No. 6 on the Logan Cannel Coal Co.'s property. It was previously reported a gasser.

In Union district, Ritchie County, the Pittsburgh & West Virginia Gas Co. has completed in the Big Injun sand No. 4,977 on the Ira B. Cox farm. It is a gasser. In Collins settlement, Lewis County, the same company has completed No. 7,545 on the W. C. Bennett farm. It is a gasser in the Gantz sand. In Glenville district, Gilmer County, the same company has a duster in the Big Injun sand at No. 7,552 on the John W. Wolf farm.

Lincoln and Cabell Counties

In Jefferson district, Lincoln County, Earl Cameron's No. 4 on the Golden Stone farm is a gasser in the Berea grit. In McComas district, Cabell County, the West Virginia Gas Corp. has a gasser in the Gordon sand at a test on the Alex Ross farm.

In Scott district, Boone County, the Hope Natural Gas Co. has a gasser in the Berea grit at No. 7,241 on the F. B. Chambers farm. In Washington district, the same company's No. 7,543 J. D. Allen is a gasser in the same formation. In Curry district, Putnam County, the Penn Natural Gas Co. has a gasser in the Berea grit at a test on the J. M. Chaney farm.

In Lee district, Calhoun County, M. F. Crowley's second test on the A. L. Betts farm is a gasser, spraying some oil. In Center district, the Hope Natural Gas Co. has a 10-bbl. pumper in the Maxon sand at No. 7,276 on the A. Hardman farm.

In Spencer district, Roane County, the Morford Oil & Gas Co. has completed a test on the W. B. Pursley farm. It is dry and abandoned. In Center district, Calhoun County, W. H. Bickel has a gasser in the Big Injun sand at a test on the John Harris farm.

In Ellsworth district, Tyler County, J. H. Pentz has a gasser in the Big Injun sand at a second test on the Timothy Smith farm. In Liberty district, Marshall County, the Manufacturers Light & Heat Co.'s No. 12 on the Marshall County Bank's farm is a gasser in the Big Injun sand. In the same district, F. J. Watson has a gasser in the Gordon sand at a test on the Lougenslager farm.

Fair Producer in Wetzel County

The Annex Oil & Gas Co. has completed in the Gordon sand a test on the G. Spragg farm, estimated to be good for 50 bbls. a day.

In Murphy district, Ritchie County, the South Penn Oil Co. has drilled No. 7 on the E. Bickerstaff farm into the Maxon sand and showing for a light pumper. It has shut down to pull the 8-inch casing. On Laurel Run, Murphy district, the Mid-Penn Oil Co. has a rig completed for another test on the Payton Linger farm.

In Elk district, Kanawha County, the Mill Creek Oil & Gas Co. has a light pumper in the Weir sand at a test on the G. B. Buckner farm. In the same district, the United Fuel Gas Co. is drilling No. 3,960 on the Elk River Coal Co.'s property. In Harvey district, Mingo County, F. H. Yates is drilling a second test on the D. K. Lewis farm. In Teays Valley district, Putnam County, S. A. Lewis is drilling a test on the J. W. Morrison farm. In Butler district, Wayne County, the Chartiers Oil Co. is drilling a test on the J. B. Sayler farm.

Located in DeKalb district, Gilmer County, the South Penn Oil Co. has completed in the Maxon sand No. 6 on the R. J. Ellis farm. It is showing for a 20-bbl. producer.

On Big Rowells Run, Lee district, Calhoun County, the Southeastern Gas Co. has completed in the Big Injun sand a test on the A. L. Betts farm. It is showing for a 10-bbl. pumper in the formation named.

In Grant district, Cabell County, the Harshbarger Oil & Gas Co. is due in the sand at a test on the C. & O. Railway property. The same company is drilling a test on the Wesley Meadows farm and has a rig up on the Isaac Garlach farm. In McComas district, the United Fuel Gas Co. is due in the sand at No. 1,943 on the H. C. Swan farm. In the same district, the Hamilton Oil Co. is drilling on the Peyton farm.

In Sherman district, Boone County, the Pure Oil Co.'s No. 31 on the L.R.&P. Co.'s Tract B, is a 5-bbl. pumper in the Berea grit. The same company's No. 38 on the Federal Coal Co.'s tract is a gasser in the same formation. In the same district, G. L. Cabot has a gasser at a second test on the Brown heirs farm.

Drilling and Starting Tests

In Harvey district, Mingo County, E. J. Evans completed a rig for his test of the Wade Marcum farm. In the same district and county, the Red Jacket Oil & Gas Co. completed a rig for its No. 6 Consolidated Coal & Coke Co. property. Close by, but in Lincoln district, Wayne County, the Wayne United Fuel Co. completed a rig for a test on the A. W. Wilson farm.

In the productive Clay County Pool, which extends over the line into Roane County, the South Penn Oil Co. completed a rig for its No. 97 on the O. D. Stockley farm, Geary district, Roane County, and in the same county and district, the same company completed a rig for its No. 99 on the Alfred Frieds farm.

In DeKalb district, Gilmer County, on Bull Fork of Tanner Creek, the McCall Drilling Co. has a rig up for its No. 1 on the B. T. Frymore farm. This is about 3 miles off from production. In the same district and county, J. A.

(Continued on Page 107)

TWO PROMISING LOCATIONS IN KENTUCKY SHOW DRY HOLE TESTS

By Whit

OWENSBORO, Ky., Aug. 19.—Daviess County was hard hit since the last review of the field by the bringing in of two dusters on what was thought to be ideal locations for field extensions and wells of the gusher class. One of these was drilled on the Jennie Wilson 1,300-acre farm, a few miles out of Owensboro, and known as the Bon Harbor Hills, by Dahlgren & McMahan. When the depth of 1,825 feet was reached a heavy flow of Blue Lick water was struck, and the well will no doubt be abandoned.

The other is the important test made by the Red Bank Oil Co. on the St. Joseph Academy 750-acre farm, 3 miles north of West Louisville, and over a mile from good producing wells drilled by the Creek Drilling Co., and to which a pipe line is now being constructed. This academy well was expected to be a big producer and was one of the inducements for the laying of about 6 miles of pipe line.

The Greenville Field of Muhlenburg County has another good producer for that field drilled on the Bradshaw lease and rated as good for better than 400 bbls. initial production. This makes three good wells for the new field and others are getting close to completion depth. A dry hole is reported in the same field and county, and about 3 miles east of the good wells on the Kennedy lease owned by the Ohio Oil Co., the discoverer of the newest production for that county.

Week's Work

A summary of the week's work in the Kentucky fields show 21 completions, 18 producers with an initial production of 1,243 bbls., 3 dry holes and no gas wells.

County—	Comp.	Oil wells	Prod.	Dry
Ohio	13	13	683	0
Daviess	4	2	85	3
Muhlenburg	2	2	400	1
Henderson	1	1	75	0
Total	20	18	1,243	3

Ohio County Wells

The best of the late completions in the Ohio County area was Hupp & Duff's No. 16 on the L. Trodgen farm, in the Bartlett Pool, being reported with an initial production around 200 bbls. at 264 feet.

In the Friendship Church Pool, Ogle, Maxey and others' No. 10 on the Payton Royal farm, showed an initial of 150 bbls., while No. 8, same farm, is reported at 50 bbls. H. L. Ogle and others' Nos. 1 and 2 on the Royal heirs, same pool, are reported at 40 and 25 bbls., respectively.

Claypool and others' No. 13 on the J. L. and J. H. Ralph 125-acres, in the Ralph Pool, produced an initial of 30 bbls. from a total depth of 475 feet. In this hole a string of 442 feet of casing was set and sand found from 457-74 feet.

Chester Oil Co.'s No. 3 on the M. E. Madcalf farm, in the Deanfield area, produced 50 bbls. after an 80-quart shot at a total depth of 688 feet. A string of 640 feet of casing was set in the well and the pay sand found from 657-84 feet.

Cumberland Petroleum Co.'s No. 1 on the C. V. Wedding farm, in the Ambrose-Weller Pool, is listed at 10 bbls. under pump.

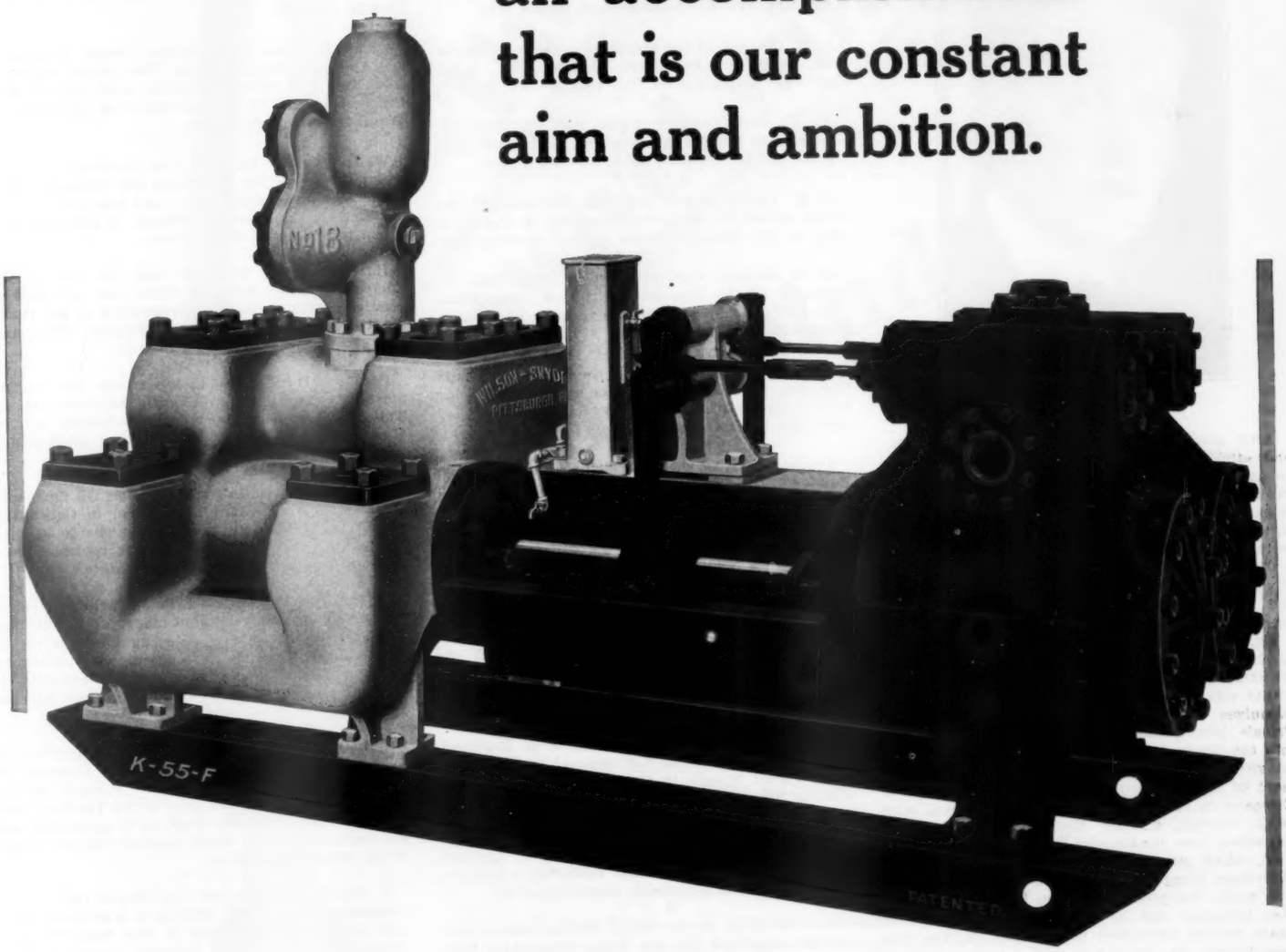
Ohio Oil Co.'s No. 8 on the W. B. Kelley 105 acres, in the Whittaker Pool, produced 48 bbls. initial at 604 feet, after an 80-quart shot. A string of 575 feet of casing was set and pay found at from 582-601 feet.

James C. Ellis and others drilled what looks like a 30-bbl. initial producer in

(Continued on Page 176)

Building a better Slush Pump—

an accomplishment that is our constant aim and ambition.



W-S No. 18 now has many additional features for lowering drilling costs.

WILSON-SNYDER

BUILDERS OF HEAVY DUTY PUMPS FOR OVER FIFTY YEARS

PITTSBURGH, PA U.S.A.

MEN KNOWN IN OILDOM

R. B. Pringle

After going through the schools of Butler, Pa., and attending Grove City (Pa.) College for two years, R. B. Pringle went to work for the T. W. Phillips Oil & Gas Company, and for 10 years he remained with that organization. During vacations while he was attending school and college he had worked on a lease under his father, William Pringle, a pioneer oil man of western Pennsylvania. A thing of special value he learned during his service with the Phillips company was the process of making gasoline from casinghead gas, then in its infancy.

Mr. Pringle went to Tulsa in 1913, first selling machinery for gasoline production and later constructing gasoline plants. One of these gasoline plants was on a lease owned by Waite Phillips in Okmulgee County, Oklahoma. This resulted in Mr. Pringle joining the companies which later merged into the Waite Phillips Company, with Mr. Pringle as vice president. He was active in the management of this company until it was sold to Blair & Company in 1925. Then he became associated with O. L. Cordell, another Waite Phillips Company executive, and constructed a refinery at Borger, Tex., which subsequently was sold to the Phillips Petroleum Company. In March, 1927, Mr. Pringle was made vice president of the Independent Oil & Gas Company and in December of that year he again became associated with Waite Phillips, this time though Mr. Phillips acquiring a large interest in the Independent Oil & Gas Company and becoming chairman of the board of directors.

Until recently the Independent was only a producing unit, but through the purchase of the Manhattan Oil Company, it entered the distributing branch with approximately 500 filling and bulk stations, most of which are in Missouri, Kansas, Iowa, Nebraska and Minnesota.

Mr. Pringle married Miss Lillian Price, of Butler, Pa., and they have four daughters and three sons.

PERSONAL PARAGRAPHS

Don Danvers, geologist, has been placed in charge of the office opened by the Sinclair Oil & Gas Company in San Antonio, Tex.

* * *

Van A. Petty, independent operator of Houston and San Antonio, Tex., has returned from an extended business trip to New York and other eastern points.

* * *

L. F. Bayer, vice president of the Associated Oil Company, has been elected a director of that company, succeeding A. C. McLaughlin, who recently retired.

A. J. Cunningham, land man for the California Company, Dallas, Tex., has returned from a trip to San Francisco and Los Angeles, Calif.

* * *

H. E. Cassidy, who recently returned from a six months' tour of Europe and Asia, has entered the employ of the Axelson Machine Company.

* * *

J. Edgar Pew, president of the Sun Oil Company, Dallas, Tex., is spending a month in Atlantic City, N. J. Mrs. Pew accompanied him on the trip.

* * *

L. E. Delcuze, of the executive department of the Gulf Production Company, Houston, Tex., is in California on a vacation trip with his family.

* * *

P. W. McFarland, geologist with the Sun Oil Company, at the San Antonio, Tex., office, has been transferred to the head office at Dallas, Tex.

* * *

J. H. Turner is now geologist in charge of the office opened by the Independent Oil & Gas Company in the Milam Building in San Antonio, Tex.

* * *

M. E. Mockley, superintendent of the gasoline department of the Amerada Petroleum Corporation, with his family, is spending his vacation in northern Minnesota fishing.

* * *

John L. Darby, president of the Darby Petroleum Company, and Mrs. Darby are on an extended motor trip in the British Isles. They will remain abroad until late in September.

* * *

Daniel Leary, of the Prairie Pipe Line Company, Eastland, Tex., who underwent a serious operation at Rochester, Minn., recently, is making satisfactory progress toward recovery.

* * *

George M. Shelton and family have motored to Washington, D. C., on a two weeks' vacation. Mr. Shelton is in charge of the San Angelo, Tex., office for the Simms Oil Company.

* * *

J. O. O'Grady, of the land department of the Shell Petroleum Corporation, Gulf Coast division, Houston, Tex., and his family have returned from a two weeks' motor trip to Illinois.

* * *

Robert Bishop, retired oil producer of Bradford, Pa., has booked passage for England in September. He wil visit friends in Cornwall. Mr. Bishop will visit in Australia before returning home.

* * *

Dudley Steele, chief of the Richfield Oil Company's aviation department, returned to Los Angeles, Calif., a few days ago following a business trip to New York of several weeks' duration.

* * *

L. J. Daly, of Denver, Colo., division superintendent of operations for the Texas Production Company in the Rocky Mountain region, visited the company's offices in Casper, Wyo., last week.

* * *

W. A. Belstrom, head of the land department of the Mills Bennett Production Company, Houston, Tex., accompanied by his family, motored to Minnesota, his former home, for a summer vacation.

* * *

George L. Ratcliffe, manager of the gas department of the General Petroleum Corporation, has resigned to become president of the California Talc Company, manufacturer of rotary mud compounds.

* * *

Mr. and Mrs. Monte Warner and children are leaving for Laramie, Wyo., to visit. From there they will go to California to visit Mr. Warner's parents. Mr. Warner is an independent operator at San Angelo, Tex.

* * *

John J. Doyle, president of the Doyle Petroleum Company, and W. H. Jahns, secretary-treasurer, spent several days in the Midway-Sunset Field checking over the company's holdings in the Maricopa Flats.

* * *

W. R. Cummings, assistant technologist for the United States Geological Survey, has been transferred to the Seminole area with headquarters at Shawnee, Okla. The change was made August 15. The name of Mr. Cummings' successor in the Tulsa office has not been announced.

R. S. Bynum, in charge of the McMan Oil & Gas Company's office at San Angelo, Tex., is spending his vacation in the Osage Hills in Oklahoma. Before going to Oklahoma he spent several days in San Antonio, Tex.

* * *

E. L. DeGolyer, of New York, chairman of the board of the Amerada Petroleum Corporation, and president and chairman of the board of the Rycade Oil Corporation, Houston, Tex., motored from New York to Houston.

* * *

Elmer Branson, D. C. Walker, Albert A. Nelson and Alex McGraw, of Casper, Wyo., sailed August 6 from New York for the Island of Aruba, where they will be employed by the Pan-American Petroleum & Transport Company.

* * *

W. L. Connelly, formerly vice president and general manager of the Mammoth Oil Company with headquarters in Casper, Wyo., and now president of the Sinclair Exploration Company, is preparing for a trip to Portugese, West Africa.

* * *

Harry Murphy, formerly with the Carter Oil Company in the Seminole Field, has accepted a position in the engineering department of the Humble Oil & Refining Company, Houston, Tex., and will assume his duties September 1.

* * *

Paul J. Hegwer, technologist for the United States Geological Survey, with headquarters in Tulsa, has just returned from a fishing trip in Missouri and reports a good catch of small-mouth bass, along with an attack of malaria.

* * *

E. T. Moore, president of the Simms Oil Company, Dallas, Tex., is spending a vacation in California, and W. L. Todd, vice president in charge of production for the same company, has returned from a several weeks' vacation in that State.

* * *

R. B. McFarlin, son of E. B. McFarlin, of Tulsa, vice president and general manager of the McMan Oil & Gas Company, is spending his vacation in San Angelo, Tex. He is studying engineering at Washington and Lee University, consequently is quite interested in the oil industry from the engineering standpoint.

* * *

William S. Hanna has resigned his position at the gas plant of the Midwest Refining Company in the Salt Creek oil field after five years of service and, with his family has gone to the Pacific Coast, where he will continue work as a petroleum and gas engineer. Arthur Buell succeeds him in charge of the control laboratory.

* * *

D. Eyoub, geologist with the Empire Gas & Fuel Company, who has been working in Southwest Texas and Mexico, has been caled to New York City preliminary to being sent to Colombia, South America, where he will do several months' work for the company. His family will continue to live in San Antonio, Tex.

* * *

A. C. Howard, Houston, Tex., vice president and general manager of the United Gas Engineering Corporation, and an official of a number of other companies of the Moody-Seagraves interests, has completed an inspection trip over the route of the gas line being laid by his company from Southwest Texas fields to Monterrey, Mexico.

* * *

Ralph Arnold, California geologist and producer, has been elected a Fellow of the California Academy of Scientists. His election was based, according to the notification on, "your great work on the paleontology and stratigraphy of the marine pleistocene at San Pedro and because of your long and distinguished career as a level headed man of science whose contributions have been of high grade."

* * *

William H. Dunning, Jr., and Charles P. Link, each of whom is well known in West Texas oil circles as independent operators, are forming a new company to be known as the Sequoia Oil Company, with offices in San Angelo and Fort Worth. Mr. Dunning may be remembered as the operator who discovered the McElroy Pool in Crane County and sold out to the Gulf Production Company. Mr. Link has formerly been connected with the Taylor-Link Oil Company, in the capacity of vice president.

This swivel will not bind in operation

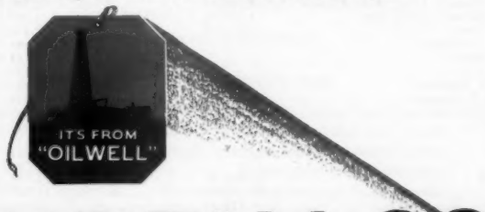
ALL working parts are enclosed and operate in a bath of oil, eliminating the constant care of lubrication. Bearings are completely housed, preventing admission of sand or grit and assuring long life.

Upper Ball Thrust Bearings and all packing glands are readily adjusted from the outside without dismantling any part of the swivel.

Water tube is 3″ inside diameter and is hardened and ground to prevent wear due to packing.

Made in two sizes: 4-inch and 6-inch.

For further information inquire at any "Oilwell" branch store, or write for Bulletin 102.



946

OIL WELL SUPPLY CO.

NEW YORK—LOS ANGELES—PITTSBURGH, U.S.A.—SAN FRANCISCO—TAMPICO—LONDON

WORLD'S OLDEST AND LARGEST MANUFACTURERS OF OIL FIELD EQUIPMENT

Oklahoma Gross Production, Second Quarter

The gross production tax report for Oklahoma for the second quarter of 1929 has been compiled from reports sent to the State Auditor by companies and individuals having crude oil or natural gas production in the State. The report as given below carries only those companies and individuals having crude oil production with a total value of $5,000 or more for the three months and royalty interests with a total value of $2,000 and upwards for the quarter.

A

Name and address—	No. bbls. oil	M feet gas	Amount
Andrews, H. N. and Ethel,* Newkirk	.....	.....	$6,131.60
Anderson, Nettie H., Charles and Wilmer,* Los Angeles, Calif.	.....	.....	3,220.57
Andrews, Walter,* Weslaco, Tex.	.....	.....	2,855.66
Ayer, Richard B,* Flushing, N. Y.	.....	.....	3,678.97
Amster, N. L., Ardmore	6,368.02	.....	8,387.94
Altom, B. N.,* Tonkawa	.....	.....	8,118.35
Atlas Royalties Corp.,* Tulsa	1,776.22	.....	2,349.57
Arnold, H. Y.,* Tulsa	.....	.....	2,046.16
Apple, S. A.,* Oklahoma City	.....	.....	14,882.91
Amerada Petroleum Corp., Tulsa	815,789.26	.....	1,161,816.65
Amerada Petroleum Corp., Tulsa	.....	1,474,356	64,770.36
Amerada Petroleum Corp.,* Tulsa	2,700.64	22,888	4,246.87
Armor Oil & Gas Co., Duncan	3,638.34	.....	5,714.83
Aiken, F. M., Inc., et al, Tulsa	.....	.....	5,120.80
Adams Royalty Co.,* Chicago, Ill.	.....	.....	122,191.29
Alma Royalties Co.,* New York City	.....	.....	19,295.84
Adamson, Peter, Tulsa	.....	.....	18,756.13
Arthur Oil Co., Sistersville, W. Va.	10,065.50	15,804	14,191.94
American Maracaibo Co., New York City	8,183.53	.....	13,746.99
American Indian Royalties, Inc.,* St. Louis, Mo.	.....	.....	14,673.77
American Royalty Petroleum Co.,* Tulsa	2,258.40	.....	3,616.21
American Oil Development Co., Pittsburgh, Pa.	4,908.73	.....	6,700.26
American Refining Properties, Wichita Falls, Tex.	4,380.25	.....	6,424.87
Arkansas Fuel Oil Co., Shreveport, La.	5,157.29	.....	6,451.16
Abraham, Joe, estate,* Bristow	.....	.....	6,037.27
Atlantic Oil Producing Co., Dallas, Tex.	363,496.04	.....	487,736.70
Atlantic Oil Producing Co., Dallas, Tex.	.....	700	23,861.67
Atlantic Oil Producing Co.,* Dallas, Tex.	9,377.84	5,576	14,068.90
Anthony, S. W., Mounds	.....	.....	6,013.34
American Oil Royalties Corp., Seminole, Tulsa	.....	.....	4,227.00
American Oil Royalty Osage Corp., Tulsa	.....	.....	2,064.53
Adcock, A. D.,* Okmulgee	.....	.....	3,825.00
Accumulative Royalties Corp.,* Tulsa	10,318.16	.....	13,915.20
American Oil & Refining Co., Tulsa	.....	.....	10,250.39

B

Barker, Annie,* Shawnee	.....	.....	2,405.23
Brame, I. L.,* Los Angeles, Calif.	.....	.....	2,467.13
Baker, T. J.,* Okmulgee	.....	.....	3,825.01
Buckner, Roy,* Wewoka	.....	.....	2,200.27
Bennett, John H.,* Ardmore	.....	.....	2,222.03
Buchner, Guy M.,* Holdenville	.....	.....	2,881.77
Bridgeford, J. R.,* New York City	.....	.....	4,327.76
Brandenburg Brothers,* Norman	.....	.....	49,549.06
Brandenburg, John B. and Michael, & Sons, Norman	.....	.....	8,909.56
Brandenburg, Jack and Robert,* Norman	.....	.....	1,588.00
Billings, Henrietta and E. M., Enid	.....	.....	2,188.01
Billings, W. S.,* Enid	.....	.....	1,973.51
Belco Royalties, Inc.,* New York City	.....	.....	62,877.40
Barbara Oil Co., Oklahoma City	7,108.75	41,449	11,955.27
Bart Royalty Co.,* Bartlesville	7,127.98	.....	10,455.27
Barnsdall Oil Co., Tulsa	1,116,078.76	.....	1,609,595.76
Barnsdall Oil Co., Tulsa	.....	Gas	79,035.21
Barnsdall Oil Co.* (suspense), Tulsa	.....	.....	3,069.00
Barnsdall Oil Co.,* Tulsa	.....	.....	45,438.62
Barnsdall Oil Co.,* Tulsa	1,757.74	.....	2,214.04
Berry Petroleum Co., Tulsa	10,889.54	7,058	15,289.43
Berry, James E., Stillwater	.....	.....	5,755.09
Berry, Thomas N. and Harriett,* Stillwater	.....	.....	9,659.76
Berry, G. M.,* Pawnee	.....	.....	6,234.78
Berry, I. G. and Claud M. Tyler,* Shawnee	.....	.....	2,181.18
Braden and Moore, Tulsa	6,025.77	.....	7,872.66
Berryhill, Earle,* Sapulpa	.....	.....	3,001.58
Bridwell Oil Co., Wichita Falls, Tex.	9,972.87	.....	12,235.69
Brown, J. J., Jr.,* Wichita, Kans.	.....	.....	3,368.26
Brown, R. H.,* Duncan	6,226.50	.....	8,574.70
Bell Oil & Gas Co., Tulsa	3,866.37	.....	5,418.00
Bermont Oil Co.,* Washington, D. C.	4,031.26	.....	6,398.71
Braun, James, Bartlesville	.....	.....	5,623.61
Bolene Refining,* Enid	.....	.....	4,790.35
Britton-Johnson Oil Co., Tulsa	5,554.74	.....	5,525.51
Bechtel, E. B.,* Blackwell	.....	.....	2,181.89
Bodkin, Margaret C.* Maud	.....	.....	2,744.70
Benedum-Trees Oil Co., Pittsburgh, Pa.	12,251.98	.....	17,500.74
Bowater, John J.,* New York City	.....	.....	2,355.69
Beavers, W. L. and Don Lawhead, trustee,* Oklahoma City	.....	.....	12,844.79
Bellington, C. B.,* Shawnee	.....	.....	35,998.44
Bird, J. W. and William Hanley,* Bradford, Pa.	6,113.32	.....	6,437.98
Barnum, Hubert F.,* Natchez, Miss.	.....	.....	2,480.76
Baker, A. O.,* Shawnee	.....	.....	20,789.06
Baker and Strawn, Tulsa	7,431.65	.....	10,137.90
Bay State Oil & Gas Co., Kansas City, Mo.	7,774.02	.....	13,703.81
Bay State Oil & Gas Co., Kansas City, Mo.	1,585.31	.....	2,241.61
Bay State Oil & Gas Co., Kansas City, Mo.	1,937.21	.....	2,656.59
Barrett, Mary F.,* Austin, Tex.	1,824.60	.....	2,406.66
Blackwell Oil & Gas Co., Cushing	.....	.....	478,068.54
Billings, Geo. M., estate*, Enid	.....	.....	2,144.00
Blasdel, May,* Blackwell	.....	.....	2,445.75
Beard, I. G., and S. I. Kolb, Duncan	7,463.75	.....	11,423.84
Beard, I. G., and S. I. Kolb,* Duncan	5,135.12	.....	6,429.25
Ballard, Elizabeth, est.,* Cushing	.....	.....	3,331.35
Boring, E. M., Oklahoma City	11,064.83	.....	14,047.59
Brostow, R. S.,* Comanche	.....	.....	2,113.76
Broyles, W. O.,* Stillwater	.....	.....	2,355.85
Ban.a, D. D.,* Tecumseh	.....	.....	2,701.67
Bryan Petroleum Co., Tulsa	15,693.43	10,455	25,744.36
Bole, Geo. S., Tulsa	10,115.75	.....	15,757.78
Bole, Geo. S.,* Tulsa	1,513.34	.....	2,456.04
Bisett, Lytle and Gray, Tulsa	11,199.89	.....	13,590.29
Breene, Mabel Gray, Tulsa	4,245.43	.....	5,445.17
Bradley, Anna, Tulsa	5,434.61	.....	6,901.58
Bowater, John J.,* New York City, N. Y.	.....	.....	2,841.08
Blank, E. J.,* Cushing	.....	.....	6,789.45
Bullock, V. M.,* Shawnee	.....	.....	6,200.17
Butler, Tom,* Seminole	.....	.....	3,644.59
Bruner, Richard,* Tulsa	.....	.....	4,297.97
Burlingame, C. E., Corp., Bartlesville	4,718.75	.....	6,746.01
Bumpass, J. M.,* Duncan	.....	.....	2,922.64
Buttram, Frank,* Oklahoma City	.....	.....	14,391.06

C

Continental Oil Co., Denver, Colo.	124,315.15	60,367	172,072.27
Continental Royalties Corp. Syndicate,* Tulsa	.....	.....	3,513.72
Continental Oil Co., Wichita Falls, Tex.	.....	.....	12,418.56
Carter, Bud, Seminole	4,313.44	.....	6,521.12
Carter, Joe,* Wewoka	.....	.....	4,031.69
Clark and Cowden, Duncan	.....	.....	8,326.98
Cowden, Robt. A.,* Shawnee	.....	.....	3,944.51
Campbell, Allie,* Seminole	.....	.....	12,452.25
Crane, T. R., trustee,* Mannford	12,303.22	.....	15,497.32
Clubb, I. M.,* Kaw	6,059.12	.....	9,124.13
Clubb, Laura A.,* Tulsa	6,058.41	.....	9,128.70
Cudahy Oil Co., Cleveland, Ohio	11,018.98	.....	12,576.56
Cudjo, Witty, Wewoka	.....	.....	17,982.31
Crosbie, J. E., Inc., Tulsa	122,121.33	.....	194,062.54
Crosbie, J. E., Inc., Tulsa	6,621.43	.....	8,086.54
Canary, S. C., Tulsa	6,137.84	.....	7,413.20
Cherry, Mrs. Clara,* Shawnee	.....	.....	2,013.29
Crone, F. M.,* Kansas City, Mo.	.....	.....	2,863.76
Creach, E. R.,* Wewoka	.....	.....	9,330.00
Columbia Royalty Co.,* Tulsa	.....	.....	3,754.66
Caudill, Samuel J.,* Tulsa	1,397.45	.....	2,094.59
Chieftan Royalties Corp.,* Tulsa	3,311.34	.....	4,825.15
Colsow Oil Co., Tulsa	5,292.82	.....	5,817.85
Colsow Oil Co., Tulsa	.....	.....	10,278.40
Connell Oil Co., Inc., Denver, Colo.	.....	.....	7,715.00
Caddo Oil Co., Tulsa	26,505.54	.....	33,345.25
Cortez Oil Co., Tulsa	6,148.84	.....	9,648.48
Coker, Chippy,* Seminole	.....	.....	2,123.27
Cumsey, Rhoda,* Seminole	6,503.15	.....	9,539.40
Conservation Oil Co., Tulsa	7,610.43	.....	9,905.37
Cherokee-Warren Oil & Gas Co., Tulsa	7,577.42	.....	8,975.53
Cities Service Gas Co., Bartlesville	.....	.....	38,953.03
Cline, Wm. S.,* Newkirk	.....	.....	2,102.86
Consolidated Gas Utilities Co., Oklahoma City	.....	398,960	29,616.47
Chisum, W. S., Jr.,* Oklahoma City	.....	.....	5,239.02
Chisum, W. S., Sr.,* Oklahoma City	3,609.21	.....	5,222.04
Cosden, J. S., Inc., of Oklahoma, Fort Worth, Tex.	60,039.07	.....	95,153.78
Campbell, Helen and Albert, Shawnee	.....	.....	2,168.00
Cosden, J. S., Inc., by receiver, Seminole	.....	.....	241,803.60
Creo Oil Co., Tulsa	5,073.30	.....	5,808.34
Central States Production Corp., Tulsa	.....	264,632	21,159.73
Central Valley Oil Co.,* Cleveland, Ohio	.....	.....	3,007.76
Central Petroleum Co., Tulsa	5,363.80	.....	6,672.19
Central Oil Royalties, Inc.,* New York City, N. Y.	.....	.....	6,375.62
Comar Oil Co., St. Louis, Mo.	636,851.87	.....	987,379.86
Comar Oil Co., St. Louis, Mo.	.....	570,543	43,609.99
Campbell, J. D.,* Seminole	.....	.....	13,025.38
Cox, Anna Elizabeth,* Ardmore	.....	.....	3,295.80
Connelly, G. W., Caney, Kans.	.....	.....	8,398.57
Commercial Drilling Co., Tulsa	4,533.17	.....	5,267.27
Commercial Drilling Co.,* Tulsa	1,565.20	.....	2,449.22
Cochran, A. D.,* Okmulgee	.....	.....	5,085.40
Colene Oil Co., Oklahoma City	57,717.47	21	57,937.66
Continental Oil Co., Tulsa	.....	.....	2,107.70
Continental Oil & Refining Co., Independence, Kans.	5,716.86	.....	7,422.95
Clarion Oil Co.,* Houston, Tex.	2,770.13	.....	4,077.76
Central National Bank, trustee for T. J. Baker,* Okmulgee	.....	.....	3,323.42
Critchlow, W. S., Ardmore	7,577.58	.....	11,204.14
Crews Estate Oil & Gas, Enid	5,527.72	.....	10,953.63
Cherry, L. L.,* Lindsay	.....	.....	5,598.38
Cherry, V. H.,* Lindsay	.....	.....	8,090.53
Champlin Refining Co., Enid	214,498.82	507	354,518.45
Carter Oil Co., Tulsa	2,659,235.78	.....	3,602,295.69
Carter Oil Co.,* (suspense), Mary Goforth lease, Tulsa	.....	.....	11,857.91
Cumberland Petroleum Co., Cleveland, Ohio	5,940.12	.....	6,713.21
Crenshaw, Gordon P.,* Jonesboro, Ark.	.....	.....	12,256.55
Crenshaw, Mrs. Gordon P.,* Jonesboro, Ark.	.....	.....	12,262.02
Colonial Royalty Co.,* Tulsa	.....	.....	4,694.26
Clark, Dillard H., Jr.,* Ponca City	.....	.....	3,095.69
Central Commercial Oil Co.,* Ponca City	6,415.02	.....	9,170.82
Cherry, Lola Florence,* Maud	.....	.....	2,281.08
Cornell, Herman D.,* trustee, Tulsa	1,240.11	.....	2,012.75
Cox, Percilla and J. B.,* Wetumka	.....	.....	2,252.68

D

Davis, Joseph D., Tulsa	3,655.01	.....	5,097.55
Davis, Euler,* Clearview	.....	.....	2,325.00
Davis, E. D., Oil Co., Oklahoma City	.....	.....	6,163.09
Davis, B. F.,* Wewoka	.....	.....	28,789.04
Darby, J. F.,* Muskogee	.....	.....	2,341.16
Doser, Bessie, Seminole	13,669.65	.....	19,617.35
Damron, W. S., and O. T., Kanowa	.....	.....	2,505.57
Denney, C. E.,* Alma	.....	.....	2,515.59
Dillard, Mrs. V. E.,* Ardmore	.....	.....	7,496.37
Dillard, Mrs. V. E.,* Ardmore	.....	.....	12,485.00
Dillard, J. H., estate,* Ardmore	.....	.....	5,663.25
Dixie Drilling Co., Sapulpa	6,236.42	.....	7,150.18
Dixon, J. L.,* Wewoka	.....	.....	3,465.75
Dixie Oil Co., Shreveport, La.	75,661.09	197,882	110,528.63
Dickson, J. H.,* Tulsa	16,689.86	.....	24,549.11
Deep Rock Oil & Refining Co., Tulsa	25,600.69	.....	38,484.96
Delk Investment Corp.,* St. Louis, Mo.	.....	.....	3,046.25
Devonian Oil Co., Tulsa	63,135.71	.....	87,701.53
Devonian Oil Co., Tulsa	.....	Gas	4,647.05
Duncan Wichita Falls Pipe Line Co., Wichita Falls, Tex.	18,782.03	.....	26,717.47
Duncan Wichita Falls Pipe Line Co., Wichita Falls, Tex.	11,656.47	.....	15,199.78
Darby Lynde Co., Tulsa	66,123.70	14,503	96,926.51
Darby Petroleum Corp., Tulsa	459,956.62	.....	644,249.33
Douglass, W. S.,* Weleetka	.....	Gas	40,728.00
Douglass, H. T.,* Shawnee	.....	.....	10,043.33
Dilley, W. Y., trustee,* Waurika	8,348.85	.....	6,557.25
Duke, W. R.,* Wichita Falls, Tex.	.....	.....	4,173.57
Delaware Consolidated Oil Co., Tulsa	47,091.52	.....	53,139.94
Dunninc, Chas. M.,* Oklahoma City	.....	.....	3,458.59
Deimar Oil Co., Bartlesville	16,514.88	.....	24,749.68
Doyle, Kenneth, Wamego, Kans.	.....	.....	3,446.88
Doneghy, J. C.,* Tulsa	13,468.06	.....	19,485.78
Diamond, Harry H.,* Holdenville	.....	.....	3,515.56
Denver Production and Refining Co., Okmulgee	.....	.....	88,097.00
Denver Production and Refining Co., Okmulgee	17,859.71	.....	24,161.96
Day, J. F.,* Earlsboro	2,462.57	.....	3,581.88
Day, Annie,* Earlsboro	4,925.13	.....	7,163.69
Douglas, O. H., Okmulgee	.....	.....	6,053.38
Dillon, Mrs. M. H.,* Jonesboro, Ark.	.....	.....	12,262.02

E

Ellison, W. H.,* Asher	.....	.....	2,829.93
Engineers Royalty, Inc.,* New York City	.....	.....	4,004.98
Enid Bank & Trust Co.,* Enid	.....	.....	5,075.99
Equitable Royalty Corp.,* Oklahoma City	.....	.....	23,167.83
Elliott, Anna May,* Lawrence, Kans.	.....	.....	3,758.31
Empire Oil & Refining Co., (suspense) Bartlesville	.....	.....	18,668.82
Empire Oil & Refining Co., Bartlesville	.....	.....	28,728.07
Empire Oil & Refining Co.,* Bartlesville	.....	.....	2,365.00
Ellis, Lea R.,* Tulsa	.....	.....	3,727.34
Emery, Lewis, Jr., Bradford, Pa.	5,309.11	.....	5,745.63
Exchange Trust Co.,* Tulsa	.....	.....	4,380.55
Eason, T. T.,* Enid	2,455.70	.....	4,058.69
Eastern Royalty Corp.,* New York City, N. Y.	.....	.....	7,509.35
Elm Oil Co., Tulsa	7,748.00	11,076	10,063.30
Elm Oil Co., Tulsa	2,701.84	142,740	3,711.68
Elliott and Smith, Tulsa	4,203.29	.....	5,125.66
Erlewine, A. J., et al, Wilson	6,033.64	.....	7,756.15
Ellis Drilling Co., Wichita Falls, Tex.	4,157.15	.....	5,586.29

(Continued on Page 98)

GARDNER OIL INDUSTRY PUMPS *combine*

Enclosed, Self-lubricated, Packed Piston Type Pump with Motor mounted on top of frame.

Enclosed Duplex Power Pump, Outside Center Packed Piston Type—3½x5 to 4½x10 sizes.

Divided Cylinder Power Booster Pump, Enclosed, Flood-Lubricated — 7¼x14 and smaller.

Divided Cylinder Steam Booster Pump for slush and oil line service— 12x4x12 to 14x7¼x14.

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Long experience and unsurpassed manufacturing facilities enable the Gardner-Denver Company to produce pumps that are unexcelled for performance, for efficient use of power and for long life in severe service.

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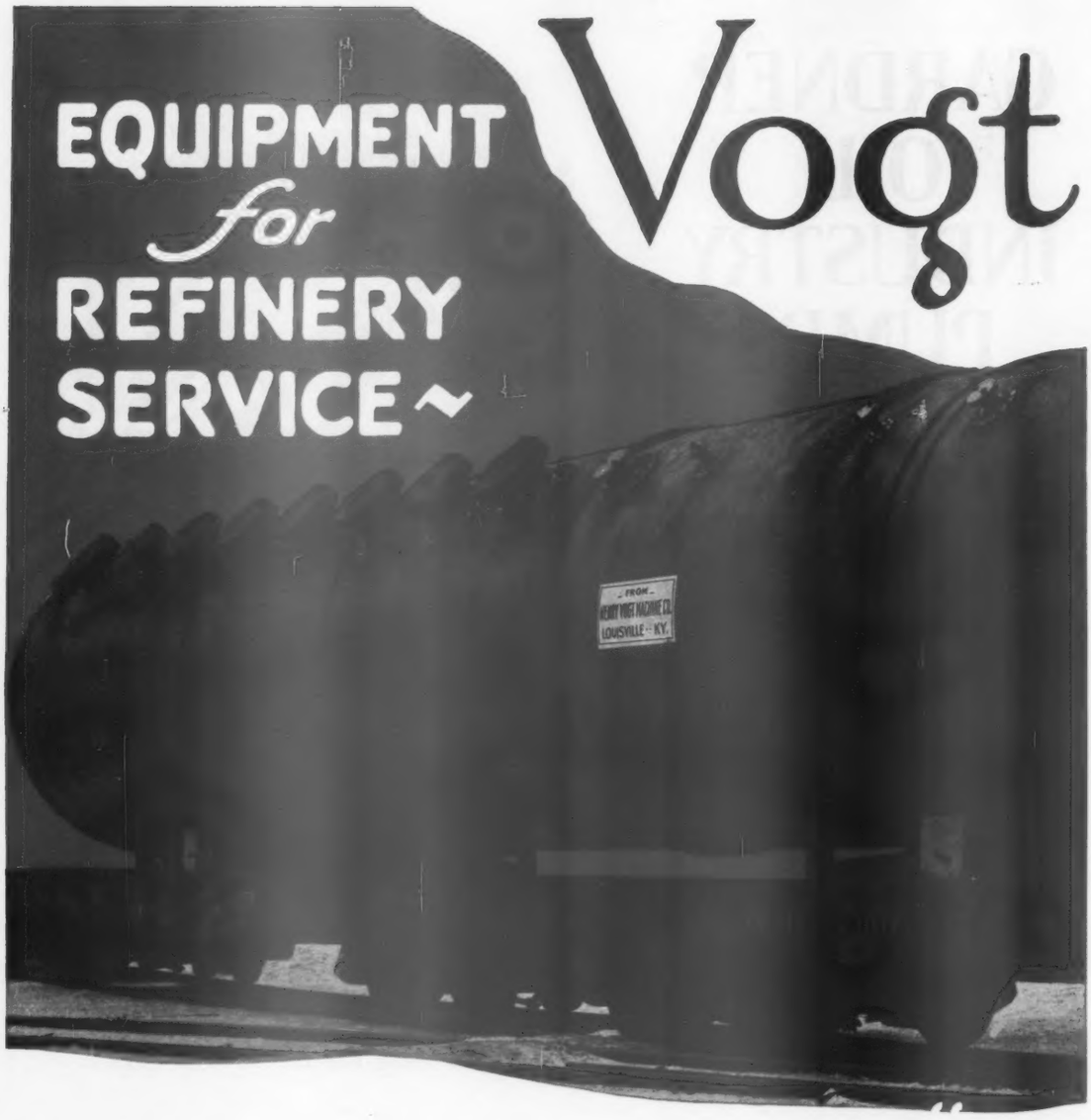
International Supply Co., Stores in all Principal Mid-Continent Fields
Haywood-Williamson . . . . . Shreveport and El Dorado
Norvell-Wilder Supply Co. . Beaumont, Houston and Fort Worth
The Republic Supply Co. of California . Stores in all Principal California Oil Fields

GARDNER-DENVER



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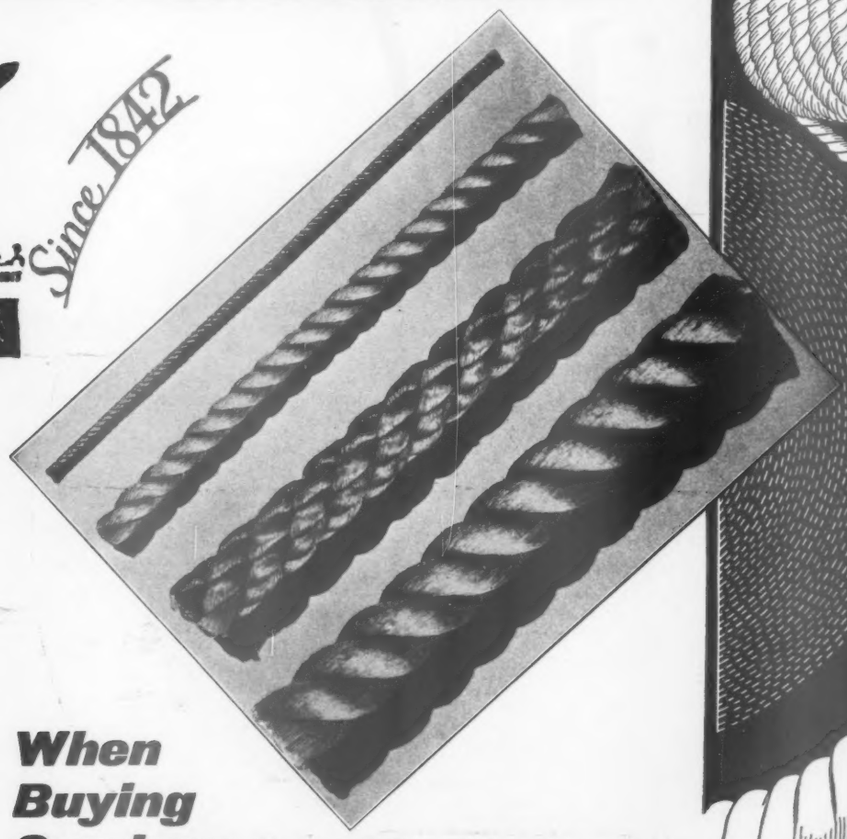

When Buying Cordage Consider the Name

"What's his monniker?" In the old days in the oil fields a man was known as a good or bad hombre by his name. New Bedford today as then was the name that signified the best in cordage and every precaution in materials and manufacture is taken by the manufacturer to protect the reputation of that name.

"If Continental Sells It . . . There Is No Better"

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CONTINENTAL

EQUIPMENT AND SUPPLIES

CRANK COUNTERWEIGHT HAS NOVEL FEATURES

A new type of crank counterweight has been put on the market by A. N. Porter, of the Big Four Foundry Co., Inc., of Tulsa.

Many types of crank or shaft counterweights have been used with varying degrees of success in the past, but the new idea contained in Mr. Porter's design is the method of applying it to the regular type A.P.I. crank, as well as the means

used for removing it if the well is to be serviced.

One of these weights has been installed on a well just south of Three Sands, Okla. and reports from the field indicate that it is doing all that is expected of it.

The weight is divided into two parts and the amount of counterbalance load can be varied as well as the relative loading area with regard to the movement of the crank.

If desired these weights can be placed in lead or lag with regard to the crank motion and the amount of weight actually used is variable.

Two bolts clamp the balance to the crank which is already on the rig, thus requiring no special equipment. Installed on the outside, the balance is in plain view and easy to get at. It is so constructed that plates may be added or taken off to suit the depth of the well. The bell shape is designed to balance the well perfectly at every point in the revolution of the crank pin, relieving the belt of strain and whip and giving a continuous motion to the rods.

The device offers novel features and its development will be watched with interest by oil field men who are looking for means of reducing lifting costs and lightening the load on prime movers used at the wells.

Paul R. Millsaps, formerly advertising manager of the Lucey Manufacturing Corp., has taken a position on the engineering staff of the International Derrick & Equipment Co.

MANAGER OF FIELD SALES

D. C. MacBain

The H. C. Smith Manufacturing Co., Inc., Los Nietos, Calif., announces appointment of D. C. MacBain as field sales manager. Mr. MacBain was formerly associated with the Baash-Ross Tool Co., and later with the Economy Pump Co. He is well known by the oil fraternity.

The Buenos Aires, South America, representative of the Four Wheel Drive Auto Co., Clintonville, Wis., has placed orders for 16 FWD trucks, 7 of which are to be 6-wheelers.

ALL MOTORS HAVE THE SAME LUG DIMENSIONS

A feature of the large vertical motors made by the Wagner Electric Corp., St. Louis, Mo., is that they all have the same flange or lug dimensions, making it possible for manufacturers and users of small motor-driven machinery to interchange motors of different types and ratings on the same mounting dimension. This feature makes it unnecessary to change the mounting base in order to interchange vertical motors of different types and ratings, effecting a saving in time and expense for manufacturers and users of machinery operated by vertical or flange-mounted motors.

Another feature is the Wagner "labyrinth seal" which prevents the leakage of lubricant into the motor windings and effects a dust-proof, leak-proof bearing housing. The vertical motors can also be mounted horizontally or obliquely. The line includes repulsion-induction and squirrel-cage motors, in 1,200 to 3,600 revolutions per minute and 25 to 60-cycle.

The company has issued a bulletin on these motors, covering all types, in ratings of 1½ to 30 horsepower.

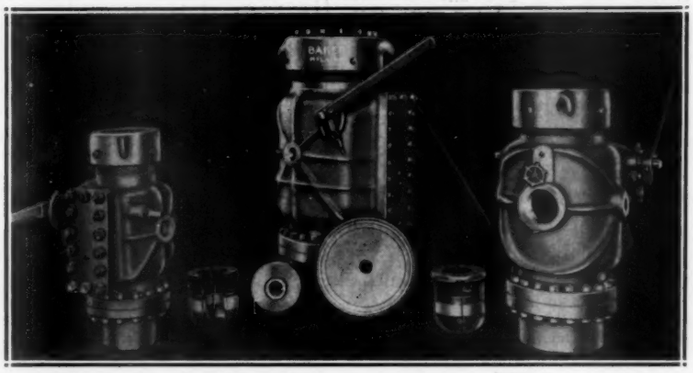
The Wagner Electric Corp., St. Louis, Mo., has moved its Cleveland service station and branch sales office to a new building at 3756 Carnegie Avenue.

KLEIN IN NEW POSITION

L. C. Klein

L. C. Klein, formerly vice president and manager of the Continental Well Supply Co., Inc., in New York, has resigned to become vice president of the American Steel Export Co. with offices at 535 Fifth Avenue, New York, N. Y. Mr. Klein started in the oil industry in McKean County, Pennsylvania, and followed through to Illinois before deciding to try the supply business. He entered the employ of the Petroleum Supply Co. in Ohio in 1907 and nine years later joined the Continental. Since that time he has been in Eastern, Mid-Continent and Rocky Mountain districts and in South America. Upon his return from South America in 1926 he was placed in charge of the export management.

DRILLING VALVE AND BLOWOUT PREVENTER COMBINED



Baker Oil Tools, Inc., Huntington Park, Calif., in its Baker combination drilling valve and blowout preventer combines in one compact unit a blowout preventer and a positive, high-pressure flange type drilling valve The drilling valve is fitted with a 6-inch circulating outlet and two 3-inch flow line outlets. A manifold or christmas tree companion plate with a 4-inch outlet is provided.

In the event that the drill pipe is in the well when a blowout threatens, the Baash-Ross (Hosmer) auto-lock packing assembly is quickly latched around the drill pipe below a coupling or tool joint, and lowered into the body neck below the lip bonnet, where it is automatically latched into place. The weight of the drill pipe resting on the auto-lock packing assembly expands the rubber and shuts off the gas pressure. The lip bonnet then can be screwed down on the packing assembly. If the weight of the drill pipe is insufficient to pack off, it is possible to pack off by pulling up and taking a strain on the packing assembly from below.

In the event that the drill pipe is out of the hole, a blowout can be prevented and controlled by closing the flapper valve and using the various fittings and appurtenances connected to the 6-inch and 3-inch outlets.

The quick-acting flapper valve is always free to operate and can be closed by a quarter turn of either of the two levers at a safe distance from the rig. Any pressure from the well assists, instead of retarding, the closing of the flapper valve.

With the valve closed, the pressure or flow is diverted through the outlets, subject to any control considered desirable. The well can be allowed to flow, for a test or other purposes; it can be shut in entirely, or it can be killed without making any changes in the original installation.

The blowout preventer body neck is constructed to receive the regular Baash-Ross (Hosmer) auto-lock hinged and latched packing assembly and is threaded externally to take a special lip bonnet containing four screws, which, when fully screwed in, prevent the lip bonnet from being screwed on the body neck too far. This provides sufficient space for the proper and automatic operation of the auto-lock packing assembly. The heavy manifold christmas tree companion plate contains a 4-inch, 8-thread, three-quarter inch taper opening and is furnished with each unit.

HELPFUL INFORMATION IN CHAIN BELT BOOK

The new Rex 330 catalog and engineering data book of the Chain Belt Co., Milwaukee, Wis., and the Stearns Conveyor Co., a division of the Chain Belt Co., specializing in belt conveyors, is a helpful contribution to the literature of chains, power transmission, water screening and mechanical conveying. The company manufactures more than 60 types of chain, in many sizes, all of which are listed, with illustrations, in the catalog. Elevators and conveyors also are shown, as well as water screening equipment, and construction machinery.

The book's 800 pages contain engineering information of value to any plant executive or engineer interested in reducing costs or speeding up production. A few of the subjects covered are "Advantages of the Chain Drive," "Design of Chain," "Design of Chain Installations," "Proper Direction of Chain Travel," "Working Loads," "Selection of Drive Chains," "Determination of Pitch," "Operation and Care of Chains."

The last 30 pages are given over to general engineering data that will assist the executive or engineer operating official in the selection, operation and maintenance of systems for the mechanical handling of material. The Chain Belt Co. offers to send a copy of the book free of charge to any executive or engineer operating official.

ENLARGED PLANT COMPLETED

The enlarged plant of the Merco Nordstrom Valve Co. in Oakland, Calif., offers practically double the amount of manufacturing space formerly available and also provides special engineering quarters. The company manufactures lubricated plug cock valves for the gas, oil, food, paper and chemical industries.

Field Problems and Their Solution

EDITED BY THOMAS F. SMILEY

In order that men connected with the drilling, producing and transporting branches of the petroleum industry may procure quickly a solution of many problems confronting them from time to time in their work, The Oil and Gas Journal has arranged with leading engineers and other recognized authorities to answer questions submitted by readers of this publication pertaining to the work of drilling and producing crude oil and transporting this product.

Everyone is invited to submit questions freely. These questions will be submitted to proper authorities by Mr. Smiley, who edits the page, and answers, based on the best available information, will be published. Each question should give as much detail as possible, especially where it relates to matters where depths of sands, types of sands and operations on adjoining properties would have a bearing on the problem involved. The source of all questions will be considered as confidential and only initials will be published in connection with the question.

In this connection, The Oil and Gas Journal will be glad to publish articles from field men who have devised new methods or practices which are improvements.

In case an immediate answer is important, one will be given by mail if the writer requests it.

FINDING HEIGHT OF FLUID

Will you tell me please how to find out the depth, or perhaps it would be better to say the height, of oil or water standing in a well hole? Is there a special instrument made for determining this? I understand one way is to use a bailer, but it is not clear to me how a bailer could be used for this purpose.—E. S. R.

The height of fluid in a well hole is ascertained as a rule with the equipment ordinarily used around a drilling rig. Somewhat crude methods may be employed with satisfactory results for the reason that inaccuracies are likely to occur anyway because of the unknown density of the oil column. One comparatively new method is that of lowering a float into the well. The float is made so that when it touches the top of the fluid an electric current is completed, immediately transmitting a signal to the surface.

Concerning the use of a bailer "Something About Gas Lift," published by the Waukesha Motor Co., Waukesha, Wis., says:

"The old original practice, and the one most relied upon today, is the use of the bailer. First, by lowering the bailer to bottom and then pulling it slowly upward through the column of oil, note is made when the sand line jerks or 'picks up' when the bailer comes out of the fluid. Check then can be made by 'stringing the line over the derrick' or noting the number of line sections from the top of the hole over the top of the derrick and down to the sand reel. This is always a known distance and is accurate enough for ordinary calculations.

"In using the bailer method to get the fluid height a check can be made as to whether water is present with the oil. Usually water does not show up in a well located in new territory during the early life."

ASCERTAINING PATH OF WELL

I would like to ask your advice as to the practicability of an instrument to measure the exact path of a drilled or drilling well. I have designed such an instrument that will record the deviation from the vertical, the direction and at what depth the deviation occurs.

There seems to be a contention from some of the oil companies that they do not care to know the direction of the path of the hole for fear of legal complications, but how can the true position of the bottom of the hole be determined without knowing the direction of deviation and the correct angles?

The original plan in the design of this instrument was to be able to calculate the exact vertical depth of the producing sand so that the subsurface geology could be determined. The acid bottle or any other instrument cannot give true deviation angles unless kept from turning around on its downward journey, and when this can be overcome the direction can easily be determined.

I rather hesitate on the manufacture of this instrument unless I know that it will be readily accepted by the oil industry as a help in acquiring geological data as well as in testing the crookedness of a hole.—H. L. M.

All that you say regarding the use of any method of surveying holes that will give direction as well as degree of deflection from vertical is quite true and the situation at this time is complicated. There are several instruments on the market that will give direction and amount of deflection, but it seems that oil companies do not desire to use the direction feature of these instruments and therefore use the acid bottle method most generally.

It would be advisable for you first to protect your idea by patents, and then to offer the device to the larger oil companies, for it is only a matter of time when operators will want to know the direction of the hole.

Recent drilling practice has been so improved that it is believed production companies will not hesitate to disclose the direction in which their holes vary from vertical for total deflection will not cause the hole to be off the lease in any event and the advantage of knowing the direction in which the deflection has occurred may be of value.

FAVORS ZEOLITE SOFTENER

The answer in the issue of August 1 to an inquiry concerning the best method of removing scale from the inside of water-jackets on gas engines has brought the following communication from a chemical engineer who expresses the opinion that zeolite softeners are preferable to acid:

"We have been reading with considerable interest, of the trouble due to scale formation in gas engine jackets experienced by A.M.B. and described in Field Problems and Their Solution in The Oil and Gas Journal for August 1, 1929.

"We note also that a number of remedies are proposed but it seems to us that the proposed remedies are almost as severe as the trouble itself. The action of acid upon the engine jacket can hardly be beneficial and if overdone, may cause serious trouble.

"As you no doubt know, the deposition of this scale is due mainly to the action of the heat on the temporary hardness contained in the water. This temporary hardness, so called because of its tendency to form scale in the presence of heat, will precipitate at fairly low temperature and cause the trouble described. The permanent hardness in the water rarely causes the scale unless subjected to the high temperatures and concentrating action of a boiler.

"It would seem that the most logical remedy for scale in gas engine is to remove the components of the water which are likely to cause the trouble. This is most economically and efficiently done by means of a zeolite softener of which a number are available upon the market. In the zeolite softening process the hardness of the water is reduced to such an extent that it will not form scale even if heated to a high temperature in the engine jacket.

"In addition to preventing the formation of scale, zeolite-softened water ordinarily will remove the scale from an engine jacket which has previously become coated. In fact, in many instances, zeolite-softened water has been accused of causing leaks because of its tendency to dissolve the scale.

"Because of the tendency for after precipitation, lime soda softened water is not quite so suitable for cooling water unless given special treatment. In some cases where lime soda softeners are in use for other purposes the cooling water may be withdrawn and treated in such manner that after precipitation is eliminated."—D. V. M.

WHY WAS IT CALLED THAT?

TOUR

The word, which designates the shift of a drilling crew or other oilfield workers, is pronounced usually as if it were spelled t-o-w-e-r. It is supposed to have been derived from the French "tour," and is pronounced correctly as if it were spelled t-o-o-r. "But," as one man remarked, "nobody should expect an oil-field worker with a mouthful of Mail Pouch to bother about his French."

The word does not refer to the derrick, or tower, as some seem to think, but in the French it refers to a turn or shift of military duty. A reason for borrowing the word for use in the oil industry is seen readily.

ABBREVIATIONS BAFFLE HIM

I thought I was familiar enough with the language of the petroleum industry to get the meaning of any abbreviations used, but I have come across some that have stumped me. Perhaps you can tell me the meaning of cal., vel., effy., sp., d.-c., s.s., f.s., p.f., m.e.p., rad., l.-w.s., g.-o.r. and kv.—R. S. I.

There is nothing astonishing in the fact that these abbreviations caused you trouble. Reference to the list of abbreviations recommended by the American Petroleum Institute for use in technical manuscripts shows that all of those named by you appear there. It is made clear, however, that the abbreviations should be used in tabulations only and that all the words should be spelled in full in the body of a manuscript. The words indicated by the abbreviations in your list follow: Cal., calories; vel., velocity; effy., efficiency; sp., specific; d.c., direct current; s.s., seamless steel; f.s., factor of safety; p.f., power factor; m.e.p., mean effective pressure; rad., radius; l.-w.s., lap weld steel; g.-o.r., gas-oil ratio; kv., kilovolts.

OIL A MIGRATORY SUBSTANCE

Oil is often referred to as a migratory substance. Is there unanimity of opinion about this?—S. N. L.

Oil is referred to as a migratory substance principally because of a decision handed down by the Supreme Court of Pennsylvania in a case that is cited wherever the legal aspects of gas or oil are discussed.

"Water and oil," said the court, "and still more strongly gas, may be classed by themselves, if the analogy be not too fanciful, as minerals ferae naturae, (of a wild nature; undomesticated animals). In common with animals, and unlike other minerals, they have the power and tendency to escape without the volition of the owner. Their 'fugitive and wandering existence within the limits of a particular tract is uncertain.' They belong to the owner of the land and are part of it, and are subject to his control; but when they escape, and go into other land, or come under another's control, the title of the former owner is gone. Possession of the land, therefore, is not necessarily possession of the gas. If an adjoining, or even a distant, owner drills his own land, and taps your gas, so that it comes into his well and under his control, it is no longer yours, but his."

It has been said repeatedly by the courts and writers that the owner of the soil owns the gas and oil beneath its surface; and expressions to this effect will be found in many books of law dealing with this subject. This is an acknowledgement of the absolute ownership of the gas and oil beneath the surface by the owner of the land. But under the Indiana decisions, which have met with the approval of the Supreme Court of the United States, the owner of the land has only a qualified right to the oil and gas beneath the surface—the right to reduce it to possession and to exclude all others exercising the right on the premises—and title in him to it does not vest until he has reduced it to actual possession, either by bringing it into a well or into a pipe line, or into a tank or other receptacle in case of oil. Until that has happened the gas or oil by natural forces may escape from his land, be reduced to possession by another and become the other's property.

USING ICE TO SET CEMENT

I have noted some statements to the effect that it was necessary to dump ice in drill holes in California in order to cool them at the bottom of the hole or casing point enough to permit the cement to set. Is this a fact, and if so, will you please let me know a little more about this practice?—M. O. P.

This department is unable to confirm the statement concerning dumping ice in wells, but it is a fact that temperatures at a depth of 7,100 feet in the Santa Fe Springs Field of California were about

WELDERS IN SOUTH AMERICA

I have been advised to write you for information regarding welding and pipe line work in South America. Can you give me the addresses of oil companies that use electric welders, especially in the fields near Valparaiso, Chile?—P. M. J.

It is suggested that you address an inquiry to Bert Brush, Carter Oil Co., Tulsa. Mr. Brush is in charge of the employment of men in foreign fields for the Standard Oil Co. of New Jersey, of which the Carter is a subsidiary.

Franklin Valveless Oil and Gas Engines

Some of the Franklin OF Good Points

Enclosed type.
Simplicity.
Low fuel consumption.
No special tools required.
No special threads used.
Extremely heavy crank.
Counterbalance on crank.
Hollow crosshead pin fitted with crosshead on a taper.
Metallic Packing on piston rod.
Removable shells in all bearings.
Very accessible.
Steel crosshead with adjustable bronze shoes.
Piston rod flanged and bolted to piston.
Air cooled piston.
Cylinder head jacket easily cleaned.
Cylinder has three point force feed lubrication.
Most economical to operate in fuel, lubricant, water and repairs.
Easy starting.
Least number of parts.

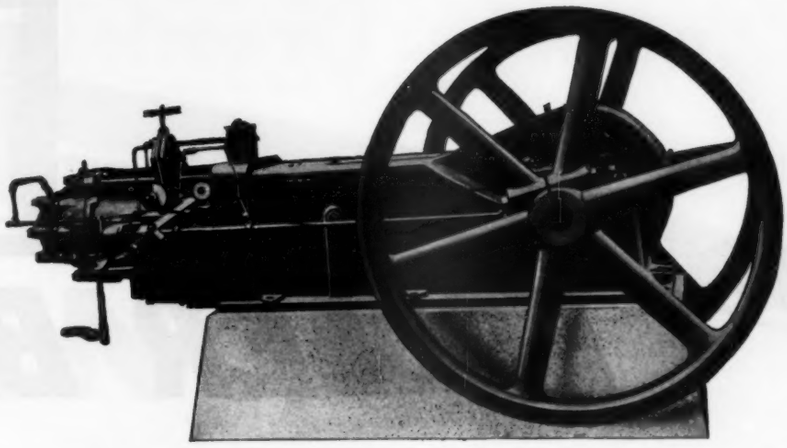
Type BG Clutch for Cable Tool Drilling or Pumping

A vast improvement over the former type of clutches.

Driven from pulley on engine. Permits the use of a larger diameter pulley and makes possible a slower clutch speed. Operates by hand lever on derrick.

Construction and design prevent Reverse Clutch Troubles.

PRICE—$1200.00 F.O.B. Franklin, Penna.



The A. P. I. Demanded Standardization Franklin Engines Give It

We believe standardization means economy—in both money and effort.

In the new and improved Franklin Oil Engine, identified as Type OF, each of its three sizes are made interchangeable as to foundation. Finish with the drilling engine—then move in the smaller pumper without changing so much as a bolt hole.

All Franklin Valveless 16″ stroke engines are interchangeable on the same block.

No loss of time, expense of new block or trouble. Practical economy for the operator—sufficient certainty to specify to the drilling contractor that he drill with a Franklin.

Even without this feature, advantageous as it is, the Franklin Valveless Engine stands as an achievement in performance, simplicity and economy. Operators who have seen this new type OF believe it to be an unusual advance in Internal Combustion Engines.

Where gas as fuel is available, specify Type OG. Incidentally, the OF Engine is readily converted into this OG type at very little trouble or expense.

Franklin Valveless Engine Company
Franklin, Penna.

PRICES

12 x 16 Type OF Franklin, including water circulating pump and pulley. *$1550 F.O.B. Franklin*

13 x 16 Type OF Franklin, including water circulating pump and pulley. *$2050 F.O.B. Franklin*

16 x 16 Type OF Franklin, including water circulating pump, pulley and air starting equipment. *$3200 F.O.B. Franklin*

NOTE—Type OF is readily converted into type OG for gas fuelization.

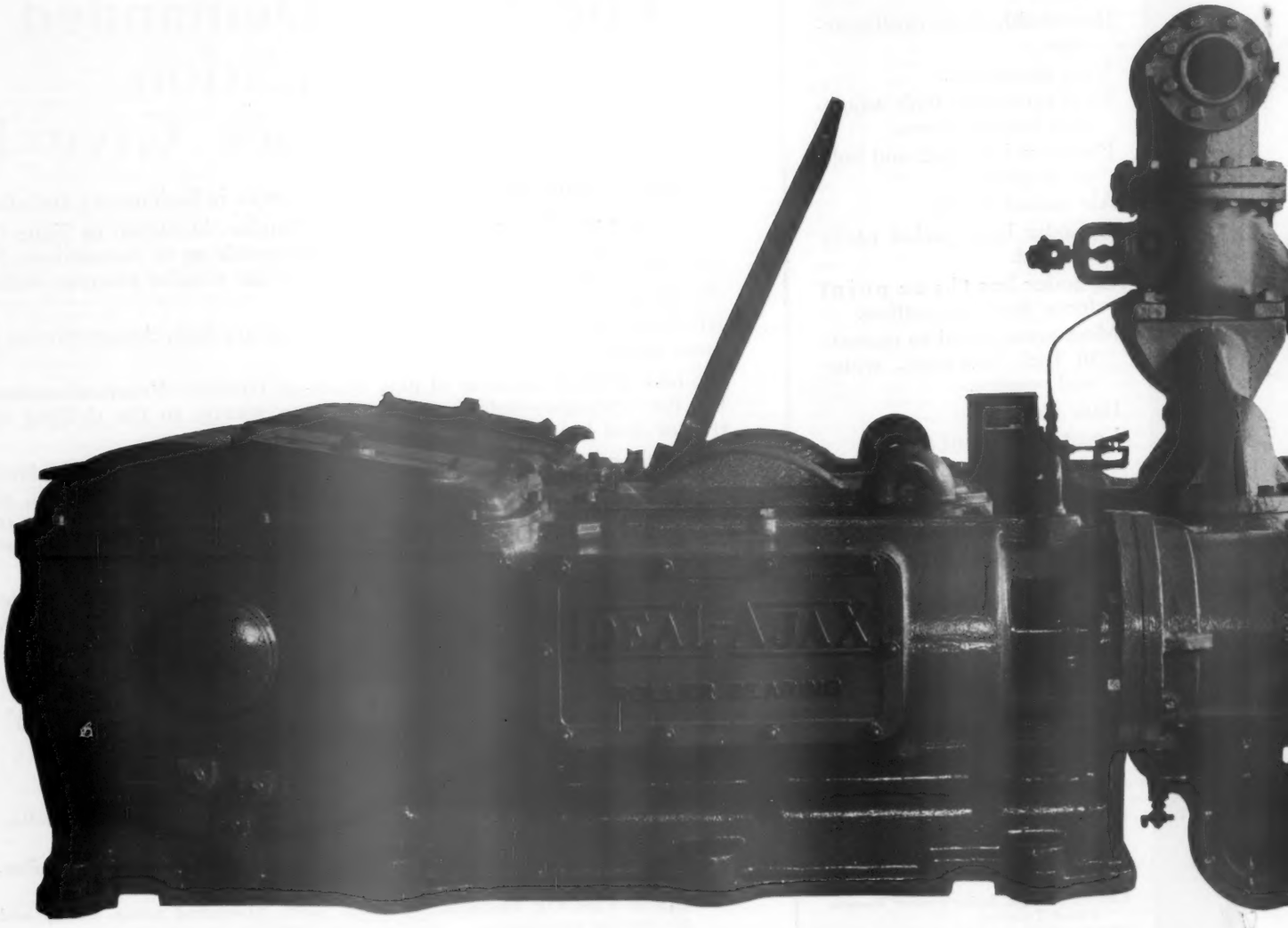
Distributed by

OIL WELL SUPPLY COMPANY

Branches in All Oil Fields

IDEAL-A

ROLLER BEARING T

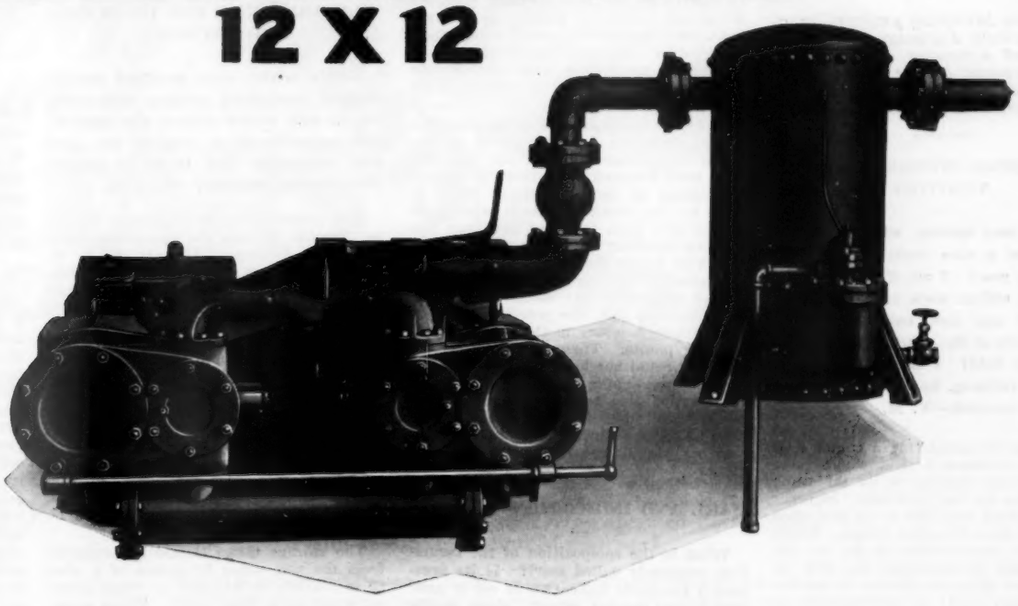


THE
NATIONAL
COMPAN

-AJAX

TWIN ENGINE

PISTON VALVE TYPE
12 X 12



THE NEW LARGE CAPACITY STEAM SEPARATOR DESIGNED FOR INSTALLATIONS WHERE LARGE QUANTITIES OF WATER MUST BE HANDLED, DUE TO CONDENSATION IN LONG STEAM LINES, UNDERSIZE BOILERS AND OTHER CAUSES.

THE
AL SUPPLY
IPANIES

Technical Questions Answered

BY CHARLES K. FRANCIS, PH.D., TECHNICAL EDITOR

This department of The Oil and Gas Journal is devoted to the manufacturing branches of the oil industry. Those connected with the refining of crude petroleum, the manufacture of natural gasoline and closely allied industries are invited to submit their problems to Dr. C. K. Francis, technical editor. The department was created for the purpose of aiding managers, superintendents, engineers, chemists and all those engaged in the various phases of plant operation; also those connected with the marketing and utilization of petroleum products.

Questions should be submitted in as much detail as possible so as to assure a satisfactory answer.

All inquiries should be signed and if other than the given initials are to be used please indicate the desired letters.

Questions involving patented processes, intricate formulas and calculations and estimates of costs, for obvious reasons, cannot be answered. The replies will appear on this page within a reasonable time.

REFINING OFFERS OPPORTUNITIES

In your own opinion, what is the advisability of a man studying petroleum engineering now? I am 27, single, have three years college work and seven years in natural gas and natural gasoline. Which branch of the industry would offer me the best field? I have a slight preference for refining, but am told that it is already crowded.—F. M.

When one is considering a career it is important to choose a field where there will be an opportunity to do the thing which brings joy and pleasure. In other words, do what you like to do and then do it better than the other fellow. Every industry is overcrowded so far as the ordinary man is concerned, but few industries now offer the chance to the exceptional man equal to opportunities of the petroleum refining industry. If a man has a good education and has ability to get along with his fellows, the industry offers a pleasant and respected occupation with a comparatively high financial return.

You will find an editorial discussion of conditions of the technologist in the petroleum industry in The Oil and Gas Journal, February 16, 1928, page 34, from which the material below has been extracted:

The oil industry is becoming accustomed to the fact that it is increasingly dependent upon technologists within its ranks, but it has not been so generally recognized that it is owing more and more to outside investigators and specialists who are using their particular knowledge and skill in their own industries to aid in solving the operating and manufacturing difficulties of the oil industry.

There was a time when the industry was considered self sufficient. Given the material it designed, built and operated anything it needed for its operation. That time has passed. There is as much difference between the oil industry of the pioneer days and the present as there is between the one-hoss shay and the modern motor car. The wagon builder was sufficient to himself. The automobile manufacturer assembles in one machine the products of scorer of organizations and the work of countless specialists. So it is with the modern oil industry.

Crude oils of varying characteristics, not previously known, have demanded complicated processing methods due to the necessity of securing maximum producing efficiency in plant operation. In refineries the manufacturing processes have been practically revolutionized within the past five years. Cracking operations with high temperatures and high pressures have done away with makeshift work and design in all the units. Lubricant plant practices which were practically unchanged for a period of 25 years have recently undergone marked developments in processing. Power plant practices have been altogether revised.

The technical progress of the industry has been so rapid that no organization, no matter how large, could hope to keep pace with it within itself. For that reason specialists have come in. Individuals, or groups of individuals, making a study for several years of one particular phase of production, refining, or natural gasoline manufacture, have been able to perfect equipment and make it available to the industry for each special purpose. These individuals, or groups, as in other lines of industry, concentrating their study upon one particular feature, could accomplish more than some organization attempting to cover the operations of an entire industry.

Take the study of distillation problems arising from the introduction of the so-called sour crude which would formerly have been disposed of as fuel oil without attempting to secure gasoline from it. Due to the work of these specialists means have been found of distilling this oil and breaking it into fractions, some of which bring the maximum return to the refiner. The corrosion angle attracted the interest of the metal industry to make tests to meet the practical needs of the refining industry in the various parts of their plants. These questions the oil industry could not hope to solve by itself as they were outside its province. In the fractionation end through proper design of the towers it has been found possible to accomplish in one operation what previously had required several operations.

MARL AND INDICATIONS FOR OIL

What is the composition of the formation commonly called marl? Is its presence a favorable indication of oil or gas? Has it any market value? Many people think it is composed of decomposed shells and its presence in the soil is a sure indication of oil. Please set us right.—R. B. C.

In a general way marl is the name applied to a naturally occuring mixture of clay and calcium carbonate with more or less sand particles, which usually falls apart when exposed to the air. There are large deposits of this material located in numerous places in the United States. The greensand marl deposits of New Jersey are cretaceous deposits containing comparatively small quantities of lime but appreciable percentages of potash and phosphates.

The marls of this country generally belong to three classes and occur in geological formations which are generally found one above the other in immediate succession. The upper layer, blue or shale marl, generally found near the surface, consists chiefly of sea mud with partially decomposed shells and bones. Its value depends mainly upon its lime carbonate content, between 40 and 50 per cent. The second kind or chalky marl is a coarse friable chalk, consisting of small particles of shells and corals, yellowish to white in color. It may contain as much as 95 per cent lime carbonate with traces of potash and phosphates. The third includes the greensand marls and these vary in composition to a great extent.

Marl is valued both as a direct and indirect fertilizer for improving the chemical and physical condition of some soils, because it serves to correct acidity, makes available plant food and tends to promote nitrification. It cannot have a wide use; because of the weight and the large quantities that are usually applied to the land its value as a fertilizer must be confined to districts which are not far removed from the deposit.

As you are probably aware, most petroleum is found in formations which are classified as sedimentary. The idea that petroleum has been formed from organic material is widely accepted. Some experts are of the opinion that petroleum has originated in fish remains. All of these will permit marl to be included in the favorable sign class because it is a sedimentary deposit, containing material of organic origin, and a large part of some marl deposits are fish remains.

BLENDING NATURAL GASOLINE AND NAPHTHA

Kindly advise most practical method blending casinghead gasoline with naphtha for bulk service station, also approximate quantities to be used in, say, good B.B. casinghead and 45 to 50 gravity 450 endpoint naphtha?—W. J. G.

The grade of natural gasoline known as "Double B" has the properties listed as in the following: Gravity, 84 to 92 A.P.I.; endpoint, not over 375 degrees Fahrenheit; recovery, not below 85 per cent. This recovery permits a loss of approximately 15 per cent when the distillation is made where the vapors are cooled to very close to the freezing temperature of water; that is, the temperature of the condenser is usually between 32 and 34 degrees Fahrenheit, and the special conditions under which the condensed liquid are kept cool are intended to prevent excessive loss. This point is made here because when blends of this character are to be made it is advisable to consider what the handling loss may be in addition to the storage loss.

The storage tanks should be protected from the sun either by means of a shed or insulation, in addition to being painted white or a light color. When possible, such tanks should be underground where a low temperature will be maintained and the loss during storage will be kept much lower than when the tanks are on the surface. The volatile nature of Grade Double B natural gasoline make it impossible to blend in an open tank or at high temperatures. The natural gasoline should be run into the tank below the naphtha and the blending may be accomplished with the minimum loss if the lighter liquid is baffled in some manner as it flows upward through the heavier liquid.

The market value of the products will to some extent influence the proportions to be blended; however, when the blend is to be used as a motor fuel, it will be necessary to consider the maximum quantity of natural gasoline which may be added to the naphtha without having a bad effect on engine performance. It is claimed that natural gasoline may be blended to the extent of 50 per cent in the cooler parts of the country, and have a good motor fuel, but in the warmer sections serious vapor lock may develop when large quantities of natural gasoline are present in the gasoline used in automobiles.

The various methods for calculating the proportions of two gasolines which should be blended for a given gravity have been mentioned on this page at different times, and space is not available for a complete statement of these, but a formula, given in the issue of June 17, 1926, will serve as an example. This is known as the barrels formula. The volume, in barrels, and the gravities are set down:

$$(\text{Bbls.} \times \text{Grav.}) + (\text{Bbls} \times \text{Grav.}) = \text{Grav.}$$

$$\text{Total barrels} \qquad \text{Mix.}$$

The common formula so frequently used for blending calculations is known as the rectangle method. Draw a rectangle and set down in the left hand corners the given gravities or percentages of the two liquids. In the center place the gravity or percentage desired. Place the difference between the desired number and the two given numbers in the right hand corners at the ends of the corresponding diagonals. The figures indicate the relative number of parts of the given numbers which lie on the corresponding horizontal lines of the rectangle to be used when making the mixture. State in terms of specific gravity in place of A.P.I. when very close estimates are desired.

TREATING GAS AND HYDROGEN SULPHIDE

I wish to know if a water wash on gasoline which contains hydrogen sulphide is of any benefit and especially where a caustic wash is used before adding the doctor solution? What per cent of hydrogen sulphide will the water take up in comparison with the caustic?—H. C. C.

When a good water is available in large quantities it is advisable to apply a water wash to a gasoline containing hydrogen sulphide as a preliminary treatment. The reason for this is that hydrogen sulphide is easily soluble in cold water. The solubility in water at 32 degrees Fahrenheit is 4.37 volumes of the gas in one volume of water; at 70 degrees Fahrenheit the solubility is 2.65 volumes, and at 104 degrees Fahrenheit it is 1.86 volumes. It is impossible to remove all hydrogen sulphide from natural gas or from gasoline, on a commercial scale, by means of a water wash because the velocity required for plant operation does not permit long enough contact. However, a water wash should be a part of the treating process as it is a cheap method for the removal of a large quantity of hydrogen sulphide which, if allowed to remain, would combine with equivalent quantities of lead and sodium hydroxide in the doctor solution. Some operators place several water wash-tanks through which the natural gasoline is passed before it reaches any of the tanks containing the treating chemicals. It is considered good practice to introduce an alkaline wash before the doctor treatment because, in addition to the action of the caustic on hydrogen sulphide, a large part of the lower mercaptans are removed.

Solutions of caustic soda remove much larger quantities of hydrogen sulphide than water but the element of expense is to be considered. The quantity of hydrogen sulphide which may combine with caustic soda will vary with the concentration of the alkaline solution and the length of time the solution is in contact. Hydrogen sulphide and sodium hydroxide (caustic soda), combine in the ratio 32 to 40, or 32 to 80 by weight according as to whether the acid sulphide or the sulphide is formed. Calculations for the quantity of hydrogen sulphide that may be removed from the special gasoline will require the gravity of the caustic wash to be stated so that the weight of the sodium hydroxide present may be determined from the standard tables.

Sulphuric Acid

PRODUCTION COSTS LOWERED

not CENTS but DOLLARS PER TON

The New SELDEN Process

The New Selden Compound Automatic Heat Exchange Converter System

The New Selden Non-Platinum Catalyst—Stabilized for Long Life

CUTS H_2SO_4 Production COSTS Dollars Per Ton

Illustrations of a recent installation of this new process made by Chemical Construction Company, who have placed in operation or have under construction plants having a total annual capacity of 400,000 tons H_2SO_4 equivalent are shown in this booklet. Sent free on request.

WHETHER you have ever seriously considered the proposition of producing your own sulphuric acid or not, it will pay you to investigate The Selden Company's New Contact Process. The manufacture of strong acid, heretofore an extremely complicated and exacting process has been simplified to such a high degree that an entire plant can now be operated from a single control point with an extremely limited personnel.

This extraordinary achievement, which unquestionably represents the greatest advance in processes in many years, is due to the unique design of The Selden Company's New Compound Automatic Heat Exchange Converter System, which when used with The Selden Company's New Powerful Non-Platinum Catalyst gives an efficiency of 98% conversion and better.

Heretofore existing limitations of converter size and the complex operating control system have been completely swept away. In addition, two expensive stages of producing contact acid—purification of SO_2 gases from gaseous poisons and any outside source of heat for preheating the SO_2 gases have been entirely eliminated.

So great is the increase in efficiency that it is now more economical to make contact acid and dilute it to chamber strength than to make weak acid by the chamber process. Because full strength acid can be readily marketed and shipped economically, all surplus production can not only be disposed of but show a real profit besides, a point which many users of sulphuric have been quick to see.

The SELDEN COMPANY
C-591 Selden Chemical Square
Pittsburgh, Penn., U. S. A.

OKLAHOMA GROSS PRODUCTION SECOND QUARTER

(Continued from Page 86)

F

Name and address—	No. bbls. oil	M feet gas	Amount
Fowler, A. M.,* Wewoka	.....	.....	2,116.43
Fern Oil & Gas Co., Yale	14,511.71	.....	20,610.05
Finance Oil Co., Gowanda, N. Y.	12,873.21	.....	16,536.31
Fried, Samuel, estate,* Sulphur	.....	.....	11,853.47
Findley, E. G.,* Cleveland	.....	.....	2,638.06
Fondren, W. H.,* Houston, Tex.	1,822.72	.....	2,406.66
Fore, J. C.,* Wewoka	.....	.....	16,966.37
Fort Ring Oil & Gas, Fort Worth, Tex.	7,720.61	1,543	10,840.59
Flynn Oil Co., Oklahoma City	.....	.....	11,716.72
Franchot, D. W., & Co., Tulsa	41,610.86	.....	53,411.16
Foster, James F.,* Anthony, N. Mex.	.....	.....	4,627.86
Franks, Rosa,* Mount Park	.....	.....	6,568.13
Franks, W. H.,* Mount Park	.....	.....	9,466.66
Fuhrman Petroleum Co., Okmulgee	.....	.....	137,819.25
Fox Royalty Co.,* Tulsa	4,313.43	.....	4,316.54
Fox Royalty Co., Tulsa	5,173.00	.....	5,582.41
Franklin, Wirt, Petroleum Corp., Ardmore	176,749.57	.....	204,736.08
Fell, H. B., receiver for United Eight Oil Trust, Ardmore	9,397.67	.....	13,267.48
Flint, Charles W.,* Tulsa	.....	.....	16,897.62
Frazier, G. W.,* Kingfisher	.....	.....	5,561.41
Flanagan, J. P.,* Tulsa	8,458.78	.....	9,074.90
Foster Oil Co., Tulsa	8,500.80	.....	9,464.34
Franklin, Wirt,* Ardmore	3,836.34	703	4,400.57
Franklin, Wirt, and M. C. Cates,* Ardmore	2,132.43	333	2,547.21
Franklin, Wirt,* Ardmore	9,596.78	.....	11,419.56
Fitzgerald, D. C., trustee, Ardmore	4,759.24	.....	5,770.27
Fitzgerald, D. C., trustee,* Ardmore	1,689.52	.....	2,322.49
Forsyth, Rufus,* Deer Creek	.....	.....	2,655.05
Folk, H. B.,* Sand Springs	2,591.14	.....	3,813.04
Fleet, D. F.,* Ada	.....	.....	30,286.67
Fleet, Alice, guardian,* Ada	.....	.....	14,170.36

G

Grisso, W. E.,* Tulsa	.....	.....	2,354.88
Gardner Petroleum Co., Tulsa	23,245.85	.....	35,956.60
Gammon, W. H.,* Maud	.....	.....	11,262.26
Gillespie, F. A., & Sons, Tulsa	.....	.....	20,025.47
Grimes & Gillespie, Tulsa	11,923.24	.....	16,630.25
Getzelman, B. C.,* Algonquin, Ill.	.....	.....	9,895.14
Galt-Brown Co., Ardmore	5,725.33	.....	8,126.97
Hartley, J. C., agent,* Garber	.....	.....	4,173.71
Guaranty Trust Co.,* New York City	.....	.....	40,788.56
Gates Oil Co., Ardmore	9,588.97	.....	10,866.60
Gled Oil Co., Tulsa	.....	.....	9,229.94
Gibson, W. A.,* Tishomingo	.....	.....	3,057.95
Glass, J. Wood,* Nowata	4,847.13	.....	6,010.58
Green, B. M.,* Sulphur	.....	.....	2,279.51
Green, J. C.,* Maud	.....	.....	6,413.27
Green, J. D.,* Maud	.....	.....	6,443.55
Gilbrath, J. C.,* Shawnee	.....	.....	7,287.34
Gaskill, M. E., Tulsa	14,215.51	.....	18,753.56
Geiser, H. A.,* Fillmore, N. Y.	.....	.....	4,814.52
Grieves, John B., Terlton	.....	.....	10,653.00
Gilmer Oil Co., Ardmore	40,144.82	.....	49,215.21
Glenny, Ethel,* Blackwell	.....	.....	2,445.73
Graham, J. H., Tulsa	5,851.32	.....	8,146.54
Gilcrease Oil Co., Tulsa	67,812.90	.....	81,216.30
Goltry, V. L., trustee,* Enid	.....	.....	2,730.51
Greer, L. L.,* Tulsa	.....	.....	2,222.16
Green, J. C., trustee for Louise Strother,* Martinsville, Va.	.....	.....	7,464.51
Grisso, W. E.,* Seminole	.....	.....	51,707.43
Grisso, W. E.,* Seminole	.....	.....	5,591.67
Gypsy Oil Co., Tulsa	3,576,529.00	.....	5,019,519.50
Gypsy Oil Co., Tulsa	.....	4,211,533	270,940.58
Gypsy Oil Co.,* Tulsa	.....	.....	2,720.66
Greis, Burk, Oil Co., Tulsa	105,997.40	.....	161,037.37
Greis, Burk, Oil Co.,* Tulsa	.....	.....	16,177.43
Glidden Oil Corp., Tulsa	6,743.55	.....	9,287.51
General Royalties Corp.,* Enid	.....	.....	20,527.94
Green, Myrtle, and Myrtle Green, guardian, Oklahoma City	3,955.69	.....	4,810.61
Goforth, Mary B.,* Shawnee	.....	.....	4,499.31
Gorton Trust, Cement	8,194.96	.....	10,376.42
Graham, Florence N.,* Montebello, Calif.	.....	.....	3,371.12
Graham, A. E. (paid by Superior Oil Co.)	.....	.....	15,908.98
Garland, R. F., Tulsa	11,880.91	2,225	17,697.84
Gilliam, Mrs. Annie,* Jonesboro, Ark	.....	.....	12,262.02

H

Harber, W. E.,* Seminole	.....	.....	12,496.29
Horton, E. N.,* Ardmore	.....	.....	2,632.67
Fernstadt, N.,* New York City	3,523.76	.....	4,580.03
Howard, O. R., Tulsa	36,442.49	.....	47,950.13
Hyde, C. B.,* Oklahoma City	.....	.....	2,007.34
Hubbard, Robert A.,* Walpole, N. H.	.....	.....	11,752.36
Harmon, Cora Ella,* Hennessey	.....	.....	5,064.06
Herndon, M.,* Seminole	.....	.....	4,778.29
Hopkins, A. N.,* Davenport	.....	.....	2,046.53
Hilltop Investment Co.,* St. Louis, Mo.	.....	.....	4,570.70
Hales, W. T.,* Oklahoma City	3,911.56	.....	5,515.87
Hales, W. T., Oklahoma City	41,369.41	31,051	50,744.12
Hesslein, Max,* New York City	.....	.....	3,034.75
Hudson, Hargrove,* Tulsa	.....	.....	9,377.36
Home Gas Co., Cushing, Okla.	28,845.47	.....	51,813.59
Hanner, Mack,* New York City	.....	.....	13,432.21
Hull, J. A., Co., Tulsa	44,215.05	110,564	62,633.29
Houston Oil Co. of Texas, Houston, Tex.	46,148.44	6,738	69,361.82
Humble Oil & Refining, Houston, Tex.	.....	Gas	7,277.07
Home Stake Oil & Gas Co.,* Tulsa	.....	.....	17,396.11
Home Stake Oil & Gas Co., Tulsa	.....	.....	133,798.90
Home Stake Royalty Corp.,* Tulsa	.....	.....	6,553.29
Haun, Carl B.,* Blackwell	.....	.....	3,885.01
Hembree,* Tulsa	.....	.....	4,003.54
Hyde, C. B.,* Seminole	.....	.....	9,807.20
Hudspeth, A. G.,* Lexington	.....	.....	25,584.33
Hesco Oil Royalty Corp.,* New York City, N. Y.	.....	.....	3,916.00
Hearn, E. D.,* Marshall	.....	.....	2,794.78
Harold Petroleum Co., Blackwell	.....	.....	12,789.99
Hewitt Mineral Corp., Ardmore	.....	.....	6,565.46
Harland Oil Co., Waco	15,270.68	54,306	20,755.91
Harman, Emma Gertrude,* Guthrie	.....	.....	5,105.55
Harmon, C. C., Nowata	4,069.73	.....	5,194.30
Harmon, C. C.,* Nowata	.....	.....	2,152.00
Hill, P. J.,* Shawnee	.....	.....	4,044.91
Harwell, E. P., Tulsa	3,561.84	.....	5,422.63
Homaokla Oil Co.,* Oklahoma City	9,231.20	.....	10,065.39
Homaokla Oil Co., Oklahoma City	199,902.70	.....	241,386.99
Healdton Oil & Gas, Enid	25,944.11	.....	43,800.77
Healdton Oil & Gas,* Enid	9,131.90	.....	13,685.58
Harris, E. L., trustee,* Tulsa	7,890.64	.....	11,272.43
Harris, E. M.,* Berwyn	.....	.....	2,108.39
Harris, Bert, gdn.,* Irene Hembree, Maud	.....	.....	15,555.42
Harris, Bert, gdn.,* Anna Hembree, Maud	.....	.....	15,555.42
Harris, Bert, gdn.,* Dora Hembree, Maud	.....	.....	15,555.46
Harris, Bert, gdn.,* Una Hembree, Maud	.....	.....	15,555.46
Harris, Bert, gdn.,* Maud	.....	.....	15,555.46
Harris, V. V.,* Oklahoma City	.....	.....	4,785.85
Harris, Ray,* Maud	.....	.....	4,469.82
Harris and Haun, Blackwell	.....	.....	14,808.77
Hammons, S. B.,* Seminole	.....	.....	4,381.48
Hammons, J. B.,* Shawnee	.....	.....	6,602.99
Hayner Royalty Corp.,* Tulsa	.....	.....	2,996.71
Harber, Mrs. Mary,* Seminole	.....	.....	8,613.72
Harber, J. N.,* Seminole	.....	.....	4,457.06
Harber, R. T.,* Seminole	.....	.....	4,763.14
Harber, A.,* Seminole	.....	.....	3,105.91
Harber and Riddle, Inc.,* Seminole	.....	.....	2,676.80
Herbert Oil Co., Fort Worth, Tex.	.....	.....	11,690.66
Highway Oil Refining Corp., Tulsa	64,196.60	147,738	92,379.76
Hallum, W. D.,* Maud	.....	.....	4,630.10
Horton, A. D., agent,* Hawarden, Iowa	5,480.40	.....	5,956.28
Ham, Mesia,* Washington, D. C.	.....	.....	2,555.72
Hosack, J. E., Blackwell	.....	.....	6,149.45
Howard Petroleum Corp., Tulsa	33,314.36	.....	44,878.65
Hemlock Oil Co.,* Tulsa	15,239.22	.....	22,486.36
Hembre, Orville,* Maud	.....	.....	9,956.69
Halsell & Son Oil & Gas Co., Vinita	3,510.74	25,200	5,435.31
Halsell, Ewing,* Vinita	.....	.....	2,267.36
Hambro Oil Co., St. Louis	4,431.97	.....	5,492.23
Henderson Oil Co., Marietta, Ohio	7,167.20	.....	8,304.90

I

Iron Mountain Oil Co., Tulsa	12,388.72	22,960	17,079.22
Iron Mountain Oil Co.,* Tulsa	10,227.02	.....	14,236.32
Illinois Refining Co., Tulsa	5,906.35	.....	5,800.81
Ice, A. B., and L. F. Ice and Ice Drilling Co., Tulsa	.....	.....	5,937.03
Irelan, O. M., Sapulpa	4,761.97	6,074	6,695.30
Imperial Royalties Co.,* Kansas City, Mo.	.....	.....	227,585.25
Irwin, R. A., Tulsa	13,392.76	.....	20,040.49
Industrial Oil & Gas Co., Blackwell	.....	.....	6,239.85
Indiana Oil Co., Tulsa	25,351.85	.....	37,171.36
Ingram, J. A.,* Shawnee	.....	.....	24,449.49
Ingram Royalty Co.,* Shawnee	.....	.....	10,874.94
Ingram, H. L.,* Shawnee	.....	.....	4,372.54
Indian Royalty Co.,* Okmulgee	.....	.....	130,326.02
Imo Oil & Gas Co., Covington	.....	.....	12,152.94
Interocean Oil Co., Tulsa	45,900.85	.....	60,437.18
Indian Territory Illuminating Co., Bartlesville	1,057,812.62	.....	1,491,682.35
Indian Territory Illuminating Co., Bartlesville	.....	2,101,537	181,542.21
Indian Territory Illuminating Co., Bartlesville	.....	2,769,857	65,327.23
Indian Territory Illumina..ing Co.,* Bartlesville	.....	.....	57,714.60
Investors Royalty Co., Inc.,* Tulsa	77,444.96	.....	108,225.10
Investors Royalty Co., Inc.,* Tulsa	.....	.....	5,377.45

J

Joines, U. S.,* Ardmore	.....	.....	2,151.13
Junction Oil & Gas Co., Newkirk	4,213.46	.....	6,046.32
Jarvis & Holm, Inc., Tulsa	9,784.41	.....	11,700.75
Jennings, R. G.,* Pittsburgh, Pa.	6,877.11	.....	10,507.56
Jennings, E. H., Brothers Co., Pittsburgh, Pa.	4,259.06	.....	5,786.42
Jennings, Randolph P.,* Beverly Hills, Cal.	.....	.....	53,222.37
Josey Oil Co., Tulsa	155,532.28	182,540	254,819.71
Johnston, C. W.,* Seminole	.....	.....	2,066.25
Johnson, C. O., and George C. Pendleton,* Durant	.....	.....	6,601.85
Johnson Oil Refining Co., Chicago, Ill.	4,526.77	.....	6,042.20
Jones, J. Edward,* New York City, N. Y.	.....	.....	9,515.66
Jones, Robert L.,* Bristow	2,223.98	.....	4,297.83
Jones, R. C., & Co., Inc., Cushing	.....	.....	13,515.18
Jackson, L. B., Sapulpa	1,807.32	.....	2,467.50
Jackson, L. B., Sapulpa	.....	.....	14,754.19
Jameson, John B.,* Concord, N. H.	12,589.50	.....	19,460.76
Jarvis, Zollinger and Andrews,* Shawnee	.....	.....	9,354.40

K

Kingwood Oil Co., Okmulgee	60,379.50	28,239	90,280.74
King, Helene W.,* Orange, Calif.	.....	.....	17,380.11
King, Helene W., gdn.,* Orange, Calif.	.....	.....	3,992.06
King, Mrs. A. J.,* Oklahoma City	.....	.....	8,886.68
King, J. T., Okmulgee	3,816.49	.....	5,604.48
King Royalty Co., Wichita Falls, Tex.	6,770.34	.....	8,948.17
Kimble, Sallie, & C. C.,* Beggs	.....	.....	4,815.48
Knox, Charles E.,* Enid	4,972.57	8,146	4,977.57
Kennedy, Emma B.,* Okemah	.....	.....	2,485.71
Knappenberger, Frank,* Phoenix, Ariz.	.....	.....	4,618.00
Knappenberger, D. L., Tulsa	3,655.01	.....	5,097.55
Keola Oil Co., Ardmore	10,885.96	.....	6,909.82
Kistler, W. L., Inc.,* Tulsa	.....	.....	14,006.85
Kistler, W. L., Tulsa	112,545.00	.....	167,329.23
Keener Oil & Gas Co., Tulsa	40,571.74	8,477,061	49,455.34
Kewanee Oil Co., Titusville, Pa.	17,083.05	.....	20,692.50
Kewanee Oil & Gas Co., Titusville, Pa.	245,306.02	7,933,908	406,205.12
Kay County Gas Co., Ponca City	.....	591,690	60,823.08
Kay Oil Co., Blackwell	28,059.17	.....	43,101.11
Kay & Kiowa Oil Co., Tulsa	6,403.26	.....	9,914.50
Kumme, J. W.,* Okemah	.....	.....	2,505.63
Kiestler, Manning, Inc., Tulsa	12,687.90	.....	18,385.74
Killingsworth, M. E.,* Seminole	.....	.....	35,119.43
Kisner, R. R.,* Enid	.....	.....	2,150.42
Kisner, Minnie L.,* Enid	.....	.....	2,150.42
Kocher, E. A.,* Cleveland, Ohio	.....	.....	2,296.24
Keck, I. L.,* Nacona, Tex.	.....	.....	3,255.83
Kirk Oil Co., Ardmore	4,818.26	.....	5,942.29
Knotts, Sarah J.,* Stillwater	.....	.....	5,273.34
Kelly, Albert,* Bristow	.....	.....	2,149.64
Kelley, Lee,* Maud	.....	.....	3,375.24
Kershaw, L. R.,* Muskogee	1,777.34	.....	2,631.84
Kimmell, J. D.,* Tulsa	.....	.....	2,154.79

L

LeFlore County Gas & Electric Co., Poteau	.....	433,674	10,566.55
Lewis, Wade,* Harlan, Iowa	.....	.....	4,836.99
Link Oil Co., Tulsa	16,873.06	13,582	23,949.34
Lilami Oil Co., Oklahoma City	.....	.....	9,838.34
Liberty Royalties Corp.,* Tulsa	.....	.....	26,277.63
Lambert, C. K., and J. A. Spicer, Okmulgee	4,255.73	.....	6,002.55
Large Oil Co., Bartlesville	3,155.97	10,472	5,345.42
Laughlin, Llyes A., and W. T.,* Oklahoma City	.....	.....	4,176.86
Laughlin, R. W.,* Oklahoma City	.....	.....	6,615.00
Laughlin, Mrs. Sarah,* Oklahoma City	.....	.....	2,615.67
Laselle, T. E., Ada	13,465.36	.....	16,749.60
Lebow, C. H., Tulsa	5,932.03	.....	8,615.26
Lebow, C. H.,* Tulsa	2,374.48	.....	3,244.30
Lindly, E. D.,* Alex	.....	.....	8,633.94
Laughlin, N. J.,* Cushing	.....	.....	2,017.22
Lack, B. D.,* Oklahoma City	.....	.....	7,404.60
Lack, B. D.,* Oklahoma City	.....	.....	4,089.37
Lack, Matsye B.,* Oklahoma City	.....	.....	6,232.16
Lima Oil & Gas Co., Bartlesville	4,026.68	.....	15,813.32
Lone Star Gas Co., Dallas, Tex.	8,810.96	.....	9,426.92
Louisiana Oil Refining Corp., Shreveport, La.	109,279.33	223,166	126,973.84
Ludey, Patty Spence, Marietta, Ohio	4,479.73	.....	5,565.95
LaFore and Ferguson,* Limon, Colo.	.....	.....	4,465.26
Lillard, Mrs. J. C.,* Wewoka	.....	.....	18,035.66
Lohmon, John,* Altus	.....	.....	5,692.43
Latimer, James M.,* Marietta	.....	.....	5,380.66
Looney, Joseph C.,* Wewoka	.....	.....	5,165.97
Landon, A. M., Independence, Kans.	6,529.64	.....	8,570.78
Laurel Oil & Gas Co., Philadelphia, Pa.	142,377.27	204,468	204,963.99
Little Nick Oil Co., Chickasha	.....	.....	12,061.07
Lone Eagle Oil & Gas Co., Duncan	14,805.49	.....	22,493.44

M

McQueen, I. R., Oklahoma City	.....	.....	8,444.72
McCully, Ell B.,* Hennessy	.....	.....	3,809.40
McGill, H. W., est., E. Davis, Ardmore	6,967.38	.....	7,920.66
McDougal, D. A.,* Sapulpa	.....	.....	2,175.75
McClure, Carrie L.,* McAlester	.....	.....	6,189.72

(Continued on Page 102)

SAFE TESTED

Compact and Simple

Combining large capacity with compact design .... locks positively, yet quickly and easily opened.

D+B Simplex SAFETY HOOK

THE weight of the elevator and rod string locks the hook. Once locked, it cannot be opened except by hand pressure on the latch trip in the hand grip. This hook is made of the best quality steel which is repeatedly tested throughout its manufacture to assure its ability to withstand great tensile stress. All D+B Simplex Safety Hooks are equipped with Timken Roller Bearings mounted in the trunion and all parts are carefully machined and every hook is tested for ease in operation before leaving the plant.

For further information write for Bulletin No. 6-D+B.

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EMSCO STEEL EQUIPPED WELLS ARE SAFE

Suppose You Had This Pile Scrap In Your Drilling

You know, of course, that you never would actually have that much Cast-Iron Scrap in the hole, but it serves to visualize the point that Cast-Iron Scrap has no place in your well in modern drilling practice.

Full Line on Display
Booth No. 99
Oklahoma Building

Here's a case in point: Our representative was talking the other day to a driller who was running a Baker Core Barrel—and cussing liberally while he was doing it. Asked what the trouble was, the driller said he didn't know exactly—maybe the barrel had twisted off. Said he had been having trouble in drilling for about ten days, though; so maybe it wasn't the Core Barrel after all, — maybe he had some iron in the hole.

Our representative "stuck around" until the driller decided to pull the drilling string—and when the Core Barrel came up it had locked in the drill shoe teeth a piece of scrap

Baker Cement Equipment Stops Cast-Iron Troubles

The Baker Organization was first in the oil industry to recognize the need for something to replace cast iron equipment and to actually "do something" about it. The result was the designing, testing, and perfecting of a complete line of Floating, Guiding, and Cementing Equipment, with the Cast Iron replaced by a special Baker Formula Concrete, with check valves and valve seats of celeron. This combination not only gives great strength, but also complete disintegration under the drill —all easily circulated out of the hole.

Baker-Burch Cement Float Shoe

The Baker-Burch Cement Float Shoe is a plain casing shoe with a solid concrete plug, cast and anchored in rounded grooves in the shoe, and containing a celeron ball check valve. It is safe, and very strong, and in drilling out, "as soon as you're out of the shoe you're ready to go ahead." There is no iron left in the hole to be disposed of, or to make trouble later.

Baker Cement Float Collar

The Baker Cement Float Collar is a solid concrete plug, cast and anchored in a special seamless steel coupling, containing a celeron ball check valve and seat. The valve is positive in action. The Float Collar, run in conjunction with the Float Shoe, gives that added margin of safety which is very important in putting down deep wells.

Baker-Burch Side-Hole Cement Float Shoe

This variation of the regular Baker-Burch Cement Float Shoe insures free and easy circulation at all times, which is especially desirable in handling long, heavy strings of casing. Its construction is the same as the Float Shoe, with the addition of the side holes. Even when set on the bottom, the circulation is easily maintained through the side holes.

High Standards

Throughout the oil industry the name "BAKER" stands for a dependably high standard in both materials and workmanship.

No expense is spared to make BAKER tools and equipment right in the first place, and their manufacture is standardized to maintain that original high standard.

The name "BAKER" is your guarantee of excellence.

BAKER OIL

Formerly BAKER

Mail Address, P. O. Drawer "L"
Huntington Park, California

California Branches:
Taft and Coalinga

Mid-Continent Branches:
Tulsa, Okla. Houston, Texas
Export Office: 25 Broadway, New York

# of Cast-Iron Well—

iron that completely filled the drill shoe opening — and had knocked off two teeth.

Then friend driller cussed some more—but with joy this time. He didn't mind the expense—he had cleaned up the hole.

Baker Cement Equipment Is Patented and Exclusive

Baker Cement Equipment is the only equipment of its kind—it is the original and is exclusive with the Baker Organization. It is fully covered by Patents granted—Nos. 1035674, 1491915, 1561768, and 1603447—and by Patents pending which cover a number of additional features of construction, etc. You owe it to yourself to fully protect your well and equipment, as well as yourself, by specifying and insisting upon having delivered to you only Cement Equipment bearing the trade marked name of BAKER.

Uniformity

Uniformity in craftmanship—the same thing done in exactly the same way through thousands of operations—that is the element which guarantees to you the same results in use of BAKER equipment.

Baker Cement Equipment is giving uniformly successful results in every important oil field in the world, and will "repeat" for you.

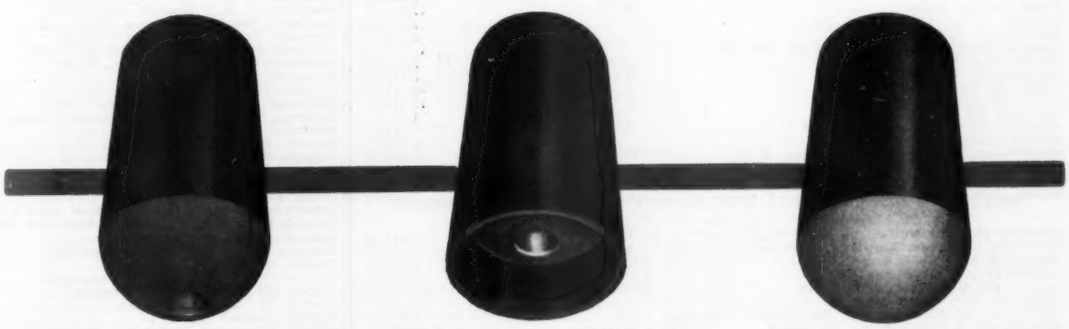
TOOLS, INC.

CASING SHOE CO.

General Office & Factory:
2951-71 E. Slauson Ave.,
Huntington Park, California

California Branches:
Ventura and Bakersfield

Mid-Continent Distributors: B. & A. Specialty Co., 220 E. Brady St., Tulsa, Okla.
2301 Commerce St., Houston, Texas



Baker Cement Guide Casing Shoe

The Baker Cement Guide Casing Shoe makes good because of its basic simplicity of construction and the great strength of the Baker Formula concrete reinforcing the special seamless steel casing shoe. It will not shatter or fracture while guiding a string down the hole. It is easily and completely drilled out and circulated away. Provides strong washdown action.

Baker Cement Baffle Collar

The substitution of concrete for cast iron in the construction of baffle plates has met with universal approval on the part of operators. A baffle or plug is cast and anchored in rounded grooves in a heavy seamless steel coupling, giving great strength and resistance to pressure or impact. Furnished solid or with 2½" hole on short notice.

Baker Cement Bull Plug Casing Shoe

A solid cement plug or "Bull Plug" is cast in a plain casing shoe for use on oil strings, conceded to be the best practice. The solid cement plug gives great strength, and is easily drilled out and circulated away, leaving a clean, unobstructed hole in case further operations should be found necessary. Baker Cement Equipment is exclusive with BAKER—specify it.

OKLAHOMA GROSS PRODUCTION SECOND QUARTER

(Continued from Page 98)

Name and address—	No. bbls. oil	M feet gas	Amount
McMahon, C. L., and C. L. McMahon, Inc., Tulsa	81,716.90	.....	122,360.25
McMahon, C. L., and C. L. McMahon, Inc.,* Tulsa	13,621.07	.....	19,855.56
McMahon, C. L., Tulsa	3,816.46	.....	5,604.47
McMahon Royalty Co.,* San Antonio, Tex.	1,874.67	.....	2,786.91
McMan Oil & Gas Co., Tulsa	63,507.28	.....	92,760.52
McRoberts Royalty Co.,* Tulsa	.....	.....	3,626.27
McGee, Nellie,* Washington	.....	.....	2,151.79
McGee, Jodie,* Norman	.....	.....	6,932.98
McGee, R. L.,* Shawnee	.....	.....	27,341.05
McGee, S. H.,* Tonkawa	.....	.....	8,598.58
McBride, W. C., Inc.,* St. Louis, Mo.	.....	.....	14,807.12
McAlester, Mary B.,* McAlester	.....	.....	6,189.72
McGinley Sigler Co., Fort Worth, Tex.	8,766.12	.....	6,496.52
McCaughtry, Floyd,* Chickasha	.....	.....	2,464.42
McCully, Charles,* Hennessey	.....	.....	5,714.34
McCully, Emma,* Hennessey	.....	.....	3,809.56
McDaniel, W. F.,* Blackwell	.....	.....	3,539.02
McCall and Lesh, Nacona, Tex.	13,355.85	.....	9,950.31
McNannon, J. F.,* Kansas City, Mo.	.....	.....	25,084.12
McGraw Oil Co., Tulsa	23,433.87	.....	31,285.09
McKinnis, George E.,* Shawnee	.....	.....	3,891.56
McCagan, Frank M.,* Rockdale, N. Y.	.....	.....	2,732.87
McMahon, C. L., Inc., Tulsa	.....	.....	7,567.82
Skelton Moore Oil Co., Bartlesville	5,065.74	.....	6,432.25
Markham, J. H., Jr.,* Tulsa	1,603.24	.....	2,382.35
Markham, J. H., Jr., Tulsa	51,149.41	.....	68,952.89
Mullendore Trust Co.,* Cleveland	.....	.....	4,432.84
Mullendore Trust Co.,* Cleveland	.....	.....	30,611.18
Mid-Continent Petroleum Corp., Tulsa	1,646,371.72	.....	2,294,046.75
Mid-Continent Petroleum Corp., Tulsa	.....	Gas	96,122.21
Mid-Continent Petroleum Corp.,* Tulsa	7,364.13	.....	7,748.95
Margay Oil Corp.,* Tulsa	2,381.32	.....	3,391.94
Margay Oil Corp., Tulsa	109,888.46	.....	153,825.14
Mariand Production Co., Ponca City	473,798.37	1,084,211	742,906.65
Magnolia Petroleum Corp., Dallas, Tex.	46,865.36	41,454	71,245.45
(Paid under protest.)			
Magnolia Petroleum Corp.,* Dallas, Tex.	.....	.....	9,416.59
Magnolia Petroleum Corp.,* Dallas, Tex.	.....	.....	2,923.54
Mangnolia Petroleum Corp., Dallas, Tex.	.....	Gas	180,187.47
Magnolia Petroleum Corp., Dallas, Tex.	3,896,259.43	.....	5,132,174.78
Magnolia Petroleum Corp.,* Dallas, Tex.	43,338.33	.....	64,353.78
Magnolia Petroleum Corp.,* (suspense) Dallas, Tex.	.....	.....	59,559.16
Mid-Kansas Oil & Gas Co., Findlay, Ohio	283,448.67	.....	394,518.18
Mid-Kansas Oil & Gas Co., Findlay, Ohio	.....	305,059	20,720.74
Midco Oil Corp., Tulsa	13,230.00	14,076	19,752.96
Moore, Clint, est., Tulsa	16,992.21	.....	24,711.83
Myers, Alice Clark,* Santa Fe, N. M.	.....	.....	3,371.82
Monarch Royalty Corp.,* Tulsa	.....	.....	56,850.30
Melton, Alice, admr.,* Duncan	.....	.....	2,355.22
Meyer, Annie,* Sapulpa	.....	.....	2,338.55
Madden and Madden,* Tulsa	15,544.73	.....	20,997.10
Mayhue, G. C.,* Seminole	.....	.....	4,610.81
Mayhue, George M.,* Ada	.....	.....	3,147.29
Mayhue, W. E.,* Ada	.....	.....	4,610.81
Masar Lease (NE & NW 1-8-5), paid by Gypsy Co.	.....	.....	13,611.00
Mayhue, George M.,* Ada	.....	.....	12,284.30
Million and Thomas,* McAlester	3,704.11	.....	4,492.90
Metcalf, R. J.,* Fort Worth, Tex.	.....	.....	3,146.19
Miller Bros. 101 Ranch,* Ponca City	.....	.....	9,029.23
Misener, F. D., Tulsa	7,541.30	.....	9,023.08
Merrick, F. W., Inc., Ardmore	.....	.....	23,819.56
Merrick, F. W., and R. W. Coe, Ardmore	11,076.23	.....	12,559.71
Magee and Stipe, Electra, Tex.	4,235.81	.....	6,046.81
Meadors, Frank, Jr.,* Wetumka	6,899.34	.....	11,620.91
Merrell, Robert,* Staton, Tex.	.....	.....	8,223.77
Musselem, Sophia S.,* Muskogee	3,602.50	.....	5,304.30
Murphy, J. F., Sapulpa	.....	.....	7,269.62
Murphy Oil Co. of Pennsylvania, Philadelphia, Pa.	8,160.86	.....	8,946.51
Mudge Oil Co., Pittsburgh, Pa.	20,062.81	.....	14,436.83
Mul-Berry Oil Co., Cushing	.....	.....	62,501.79
Moore, J. Read,* Wewoka	.....	.....	2,596.38
Melton, J. A.,* Sulphur	.....	.....	9,968.26
Mathis, M. P.,* Konawa	.....	.....	11,707.57
Meridian Gas Co., Dallas, Tex.	.....	96,542	8,098.26
Maines, J. W.,* Ada	.....	.....	6,603.15
Mainard, M. F., Jr.,* Wewoka	.....	.....	2,612.76
Mason, D. B., Tulsa	10,954.37	.....	12,531.42
Mattson, J. T.,* Brownsville, Tex.	.....	.....	2,182.00
Mainard, J. L.,* Wewoka	.....	.....	2,775.76
Midland Royalty Corp.,* New York City, N. Y.	.....	.....	44,925.00
Maxey, J. H.,* Oklahoma City	.....	.....	2,655.81
Minshall, E. R., Tulsa	3,515.38	11,174	5,936.13
Mayes, E. L.,* Tulsa	.....	.....	49,761.49
Marquette Oil Co. Tulsa	11,717.92	47,853	19,442.63
Maiernee Oil Co., Oklahoma City	4,805.37	.....	7,103.36
Marlieen Oil & Gas Co., Blackwell	5,911.13	.....	8,594.84
Morgan, Dudley D., Tulsa	.....	.....	10,498.54
Macdonough, J. M.,* New York City, N. Y.	.....	.....	4,273.26
Minnehoma Oil Co., Tulsa	112,465.10	305,405	170,309.67
Miller, B. W.,* Okmulgee	.....	.....	5,107.83
Miner, Jonas B.,* Allen	5,254.88	.....	5,803.33
N			
Norwood Oil Co., Tulsa	7,770.40	.....	9,491.38
New York Petroleum Royalty Corp.,* New York City	3,707.59	.....	5,420.15
Nelson, R. L.,* Weob City	.....	.....	3,925.71
Nichols, G. A.,* Oklahoma City	.....	.....	2,250.38
Nowata Oil & Refining Co., Tulsa	.....	.....	11,930.44
North, R. B.,* Blackwell	.....	.....	2,845.14
North Central Texas Oil Co., Inc.,* New York City	.....	.....	3,560.16
National Oil & Development Co., Tulsa	8,817.08	.....	10,427.31
National Union Oil & Gas Co., Blackwell	.....	.....	9,644.78
New England Oil & Pipe Line Co., Boston, Mass.	6,182.44	.....	8,619.87
Norvell, A. S.,* Wewoka	.....	.....	4,961.96
National Refining Co., Cleveland, Ohio	5,115.08	.....	9,181.23
Nisbett, B. F.,* Tecumseh	.....	.....	31,859.31
Neustadt, Walter,* Ardmore	.....	.....	5,533.50
Nester Oil Co.,* Alex	.....	.....	2,951.31
Neal, Beulah,* Wanette	.....	.....	5,476.13
Noble, Eva E.,* Ardmore	.....	.....	4,209.92
Noble, Hattie E.,* Ardmore	.....	.....	3,157.53
Noble, Margaret Vivian,* Ardmore	18,178.01	.....	25,474.26
Noble, Margaret Vivian, Ardmore	.....	.....	5,977.57
Newman, W. C., Corp., Okmulgee	.....	.....	14,158.34
O			
Oklahoma Gas Utilities Co., Chickasha	.....	.....	31,097.63
Oklahoma Royalty Co. of Canada,* Toronto, Canada	.....	.....	107,762.30
Oklahoma Power & Water Co., Sand Springs	.....	120,293	12,029.30
Oklahoma Natural Gas Corp., Tulsa	.....	395,123	34,465.01
Oklahoma Royalty Corp.,* Alfred, N. Y.	.....	.....	7,111.66
Oklahoma Royalty Corp.,* Buffalo, N. Y.	.....	.....	4,136.12
Osage Gas Production Co., Independence, Kans.	455.79	261,891	24,133.75
Oklahoma Gas & Royalties, Inc.,* Toronto, Canada	.....	.....	2,223.50
Oil Producing Royalties, Inc.,* Elizabeth, N. J.	.....	.....	4,971.11
Orit Securities Corp.,* New York City, N. Y.	.....	.....	3,396.98
Owen, L. G.,* Tulsa	.....	.....	2,762.86
Ohio Fuel Oil Supply,* Columbus, Ohio	.....	.....	25,885.66
Ohio Osage Oil Co., Tulsa	.....	.....	13,460.35
Ona Oil Co., Blackwell	.....	.....	36,736.92
Olean Petroleum Co., Bristow	3,354.75	.....	6,442.48
Orwig, S. S.,* Wewoka	.....	.....	12,317.87
O'Dell, Mrs. Ollie B.,* Richmond, Calif.	.....	.....	5,641.21
Orwig, S. S. (paid by Superior Oil Co.),	.....	.....	9,280.23
Perkins and Cullum, Wichita Falls, Tex.	7,152.84	.....	9,037.90
Osborn, W. B.,* Ada	.....	.....	3,664.33
Ohio Fuel Supply Co., Columbus, Ohio	.....	.....	25,555.66
P			
Pharoah, O. J.,* Henryetta	.....	.....	8,390.83
Pace, George L., Wichita Falls, Tex.	.....	.....	26,019.95
Price, Alpha, & N. J.,* Okemah	.....	.....	4,563.81
Peters Petroleum Corp., Tulsa	63,339.57	60,254	86,661.91
Pomeroy, W. H.,* Tulsa	.....	.....	2,868.45
Priboth, Lillie M.,* Blackwell	.....	.....	2,912.76
Priboth, F. F.,* Blackwell	.....	.....	2,886.12
Paraffine Oil Co., Houston, Tex.	6,787.70	.....	8,337.75
Papoose Oil Co., Tulsa	158,824.33	338,067	242,169.41
Pawhuska Oil & Gas Co., Pawhuska	.....	35,268	5,746.40
Patterson, J. A.,* Wewoka	.....	.....	3,158.16
Panther Oil & Gas Co., Oklahoma City	8,442.58	.....	12,089.08
Parks, J. R.,* Muskogee	.....	.....	2,105.88
Probst, George C.,* Tulsa	.....	.....	3,168.56
Powers, M. E.,* Tulsa	22,253.20	.....	33,267.81
Pendleton, George C., receiver, Durant	.....	.....	102,275.42
Pine, W. B., Okmulgee	.....	95,998	8,314.55
Pine, W. B., Okmulgee	21,787.55	87,449	38,972.89
Pine, W. B., and Phillips Petroleum Co., Okmulgee	9,631.60	.....	13,764.84
Pine, W. B., Okmulgee	98,204.57	.....	140,289.71
Palmer, S. F.,* Okemah	.....	.....	9,655.20
Payne, Grace,* Okmulgee	1,246.72	.....	2,177.35
Potts, Mable Dale, and J. R. Potts,* Yale	.....	.....	6,737.33
Pepper Oil & Gas Co.,* Oklahoma City	.....	.....	14,449.79
Phoenix Oil Co., Pittsburgh, Pa.	27,320.31	.....	40,488.46
Pennok Oil Corp., Dallas, Tex.	26,005.31	47,579	43,038.91
Peerless Oil & Gas,* Indiana, Pa.	15,788.78	.....	23,146.69
Peerless Oil Production Co., Tulsa	9,124.94	.....	16,428.98
Plains Petroleum Co., Inc., Tulsa	8,983.64	10,771	13,481.59
Perpetual Royalty Corp.,* St. Louis, Mo.	.....	.....	10,027.82
Pioneer Petroleum Co., Tulsa	13,162.54	.....	15,717.82
Pioneer Trust Co.,* Kansas City, Mo.	.....	.....	2,131.67
Paragon Oil Co., Tulsa	5,045.95	4,089	7,563.27
Provident Royalties Corp.,* Tulsa	.....	.....	22,278.09
Produce Royalty Corp.,* Tulsa	.....	.....	3,137.84
Priddy, H. G., & Nell,* Onaheim, Calif.	.....	.....	3,949.33
Potts, H. F.,* Shawnee	.....	.....	5,111.09
Pierce Petroleum Corp., Sand Springs	30,733.76	24,250	48,470.69
Phillips Petroleum Corp., Bartlesville	.....	Gas	92,767.67
Phillips Petroleum Corp., Bartlesville	606,577.75	.....	833,133.51
Phillips, W. G., and J. B. Milam, Chelsea	23,419.98	361	41,780.41
Phillips Oil Co., Chelsea	4,445.55	.....	5,377.91
Phillips, Wallace,* Tulsa	1,820.84	.....	2,785.94
Pure Oil Co., Chicago, Ill.	2,380,947.20	.....	3,452,492.71
Pure Oil Co., Chicago Ill.	.....	1,078,386	66,472.53
Pure Oil Co. (Gasoline Div.), Chicago, Ill.	.....	710,667	49,915.84
Prairie Oil & Gas Co., Independence, Kans.	4,558,309.40	.....	6,527,443.39
Prairie Oil & Gas Co., Independence, Kans.	.....	638,177	51,863.60
Prairie Oil & Gas Co., Independence, Kans.	.....	3,861,541	300,893.06
Petroleum Rights Corp.,* New York City, N. Y.	.....	.....	11,415.44
Petroleum Royalty Corp.,* Tulsa	.....	.....	23,729.17
Petroleum Royalties Co.,* Tulsa	.....	.....	140,258.91
Petroleum Producers Co., Wichita Falls, Tex.	10,341.52	.....	14,987.08
Petroleum Co., Tulsa	4,662.78	5,871	6,278.61
Petroleum Co. & M. H. Mosier, Tulsa	10,113.46	15,270	13,814.98
Pawnee Oil Production Co., Tulsa	4,252.37	.....	6,024.85
Producers Oil Co., Tulsa	15,618.50	10,244	23,781.93
Producers & Refiners Corp., Tulsa	101,639.58	.....	139,879.52
Producers & Refiners Corp., Tulsa	.....	Gas	10,460.66
Provident Royalty Corp.,* Tulsa	.....	.....	2,418.89
Plymouth Petroleum Corp., et al, Tulsa	5,045.45	.....	6,355.84
Q			
Quinton Relief Oil & Gas Co., Quinton	.....	120,815	7,249.00
Quinton Spelter, Quinton	.....	81,871	9,882.65
Quinlan, C. P.,* Tulsa	3,370.78	.....	4,709.76
Quimby, John,* Montebello, Calif.	.....	.....	5,971.88
R			
Ray, Joe,* Chickasha	.....	.....	11,061.43
Royalty Corp. of America,* Tulsa	48,617.96	.....	70,570.64
Rainey, John W.,* Shawnee	.....	.....	26,517.63
Reliance Oil Co. of Oklahoma, Houston, Tex.	8,227.19	.....	12,831.09
Ralph, B. B.,* Kansas City, Mo.	.....	.....	4,690.92
Ramsey, W. R., and W. E. Ramsey, Oklahoma City	129,930.56	76,242	139,410.93
Roth, C. E., Independence, Kans.	4,628.97	.....	5,987.85
Richards, C. L.,* Tulsa	.....	.....	5,814.99
Rockwell, J. A.,* Warren, Pa.	.....	.....	6,824.86
Replogle, Jamie,* Oklahoma City	.....	.....	5,302.75
Replogle, D.,* Oklahoma City	.....	.....	3,405.36
Replogle and Johnston,* Oklahoma City	.....	.....	4,168.21
Riverside Oil & Refining Co., Tulsa	8,625.22	.....	12,267.31
Riverland Oil Co., Tulsa	11,269.71	13,636	16,520.65
Riverland Oil Co.,* Tulsa	2,245.81	.....	3,070.60
Robinson, E. L.,* Tulsa	5,121.35	.....	5,751.08
Robinson, E. L., & Gibson-Zahniser, Tulsa	5,548.27	.....	7,555.83
Robinson, E. L., Tulsa	3,650.49	13,634	6,436.47
Russell, Dora C.,* Duncan	.....	.....	2,144.04
Reserve Petroleum Co., Tulsa	19,267.29	.....	27,796.36
Reserve Petroleum Co.,* Tulsa	1,985.85	.....	2,916.97
Reiter Foster Oil Corp., Tulsa	57,415.57	.....	86,536.93
Reiter Foster Oil Corp.,* Tulsa	5,744.24	.....	7,881.66
Royalties Management Corp.,* New York City, N. Y.	.....	.....	34,874.67
Royalty Investment Syndicate,* New York City, N. Y.	.....	.....	2,379.98
Rogers, B. H., Holdenville	.....	.....	7,666.45
Rogers, B. H.,* Holdenville (special)	.....	.....	11,562.74
Rogers, W. G.,* Holdenville	.....	.....	2,041.90
Rogers, W. G.,* Holdenville (special)	.....	.....	4,738.55
Rogers Oil & Gas Co.,* Holdenville	.....	.....	59,338.56
Rogers, W. G.,* Holdenville	.....	.....	16,080.52
Rogers, Leslie,* Tulsa	3,958.99	4,507	6,329.75
Rogers, Rosa, and Calloway,* Earlsboro	.....	.....	37,145.16
Red Bank Oil Co., Tulsa	10,858.95	.....	14,543.73
Reynolds Oil & Royalty Co., Okmulgee	15,188.27	.....	22,387.42
Reynolds Oil & Royalty Co.,* Okmulgee	2,610.28	.....	3,611.65
Regan, L. E.,* Tecumseh	.....	.....	4,636.79
Rudell, B. F.,* Konawa	.....	.....	4,668.94
Rubana Oil Co., Winfield, Kans.	.....	37,726	5,263.56
Rockland Oil Co., Ardmore	28,541.81	.....	31,403.10
Regal Oil & Gas Co., Tulsa	13,596.67	.....	16,695.35
Riggs, Anna., & J. M.,* Ponca City	.....	.....	2,512.47
Rena Royalty Co.,* Tulsa	27,275.75	.....	42,301.20
Reed, Frank H.,* Neosho, Mo.	39,984.07	.....	56,785.97
Reed, Isabelle S.,* Neosho, Mo.	13,482.61	.....	22,559.26
Reed, Frank H.,* Neosho, Mo.	13,359.29	.....	22,884.63
Rouse, Scott,* Enid	.....	.....	7,305.89
Reinhardt, C. H., Chelsea	3,877.36	.....	5,018.10
Robertson, B. H., Nowata	3,839.84	.....	5,055.97
Roberts, George D., Tulsa	.....	.....	6,315.09
Rigdon, C. M., gdn.,* Crescent	36,693.44	.....	45,575.34
Ryan Consolidated Petroleum Corp., Tulsa	5,488.75	.....	7,888.99
Rutz, Jake, Oil Co., Morris	.....	.....	9,878.65
Ruzek, Anna,* Enid	.....	.....	2,102.86
Robins, J. W., Fort Worth, Tex.	6,363.63	.....	6,529.66
S			
Shell Petroleum Corp., St. Louis	1,641,038.35	.....	2,345,820.93
Shell Petroleum Corp., St. Louis	.....	2,230,120	155,990.11
Sure Oil Corp., Tulsa	4,206.18	2,948	5,751.76
Selby Oil & Gas Co., Tulsa	28,567.75	7,540	36,188.27
Selby Oil & Gas Co.,* Tulsa	2,085.14	.....	3,028.56
Skelly Oil Co., Tulsa	.....	2,256,206	76,358.67
Skelly Oil Co., Tulsa	767,300.27	.....	1,026,999.73
Skelly Oil Co.,* Tulsa	11,502.26	.....	15,495.56
Southwest Gas Utilities Corp., Ada	.....	63,822	6,010.35

(Continued on next page)

OKLAHOMA GROSS PRODUCTION SECOND QUARTER

Name and address—	No. bbls. oil	M feet gas	Amount
Sinclair, H. F.,* New York City, N. Y.	.....	.....	7,824.54
Sinclair Crude Oil Purchasing Co., Tulsa	.....	.....	3,155.37
Sinclair Oil & Gas Co., Tulsa	3,958,297.66	.....	5,718,550.50
Sinclair Oil & Gas Co., Tulsa	.....	Gas	168,725.47
Cudjo, Rosa,* Seminole	.....	.....	6,392.10
Cumsey, Rhoda, Seminole	.....	.....	9,292.24
Jones, Lena,* Seminole	.....	.....	2,422.09
Jones, Lena,* Seminole	.....	.....	3,589.29
Harjo, Echoille,* Seminole	.....	.....	5,166.00
Franks, W. H.,* Seminole	.....	.....	2,971.81
Gibiett lease (NE 35-9-6), Seminole (All of above paid by Sinclair Co.)	.....	.....	22,727.44
Smith, C. S., estate of, Ardmore	3,674.62	9,734	5,340.41
Smi h, Marie S., Ardmore	7,721.66	17,997	11,019.59
Smith, Chas. R., Jr., Ardmore	6,295.24	13,744	8,849.73
Smith, Will H., Ardmore	4,643.23	5,067	5,816.16
Smith, Terry G.,* San Diego, Calif.	.....	.....	2,527.85
Smith, John,* Wetumka	1,521.38	.....	2,157.46
Smith, G. J., Tulsa	.....	.....	11,438.33
Smith, Leona,* Blackwell	.....	.....	2,445.73
Smith, Steve,* Blackwell	.....	.....	2,445.73
Smith, R. Earl,* Blackwell	.....	.....	2,445.73
Sun Royalty Co.,* Tulsa	15,142.87	.....	21,906.17
Southwest Producing Co., Bristow	.....	195,236	15,634.31
Standard Royalties of Canada, Toronto, Canada	.....	.....	55,363.75
Standard Royalties Corp. of Wewoka,* N. Y. City	.....	.....	3,418.77
Slick, T. B., Clarion, Pa.	112,696.97	.....	186,531.55
Slick, T. B.,* Clarion, Pa.	.....	.....	92,261.02
Sands Petroleum Co., Tulsa	17,554.28	.....	33,317.29
Southland Royalty Co.,* Ponca City	.....	.....	66,202.66
Seneca Royalties Co., Oklahoma City	2,103.24	.....	2,887.15
Sneed Royalty Co.,* Tulsa	.....	.....	22,137.69
Sarasota Oil Co.,* Ardmore	3,723.98	.....	4,082.85
Sunray Oil Co., Tulsa	22,079.39	.....	27,002.04
Shasta Oil Co., Wichita Falls, Tex.	22,413.39	.....	29,722.24
Sans Bois Gas Co., Quinton	.....	138,214	12,805.05
Shaffer, C. B., Chicago, Ill.	33,417.71	.....	38,995.23
Shaffer Oil & Refining Co., Tulsa	296,827.50	.....	473,062.59
Shaffer Oil & Refining Co., Tulsa	.....	551,108	.....
Shaffer Oil & Refining Co., Tulsa	.....	337,636	.....
Silurian Oil Co., St. Louis	113,510.68	.....	157,576.52
Sterling Oil & Gas Co., Tulsa	8,044.77	14,793	10,740.20
Scott, Lucy B.,* Holdenville	.....	.....	2,364.00
Sampson Oil Co., Tulsa	.....	.....	5,970.20
Skelton, L. S., est., Okmulgee	.....	.....	4,405.03
Stein, Nettie,* New York City, N. Y.	.....	.....	17,179.75
Summerfield, Moses A.,* Memphis, Tenn.	.....	.....	4,788.01
Summerfield, Joseph,* Memphis, Tenn.	.....	.....	4,788.01
Shaffer, Marcia A.,* Oklahoma City	1,881.45	.....	2,695.41
Sharp, R. C., Tulsa	4,718.77	.....	6,745.99
Streck, Jennie E.,* Hennessy	.....	.....	3,809.56
Sporleder, William,* Okemah	6,101.43	.....	8,389.46
Seay, O. W.,* Ryan	.....	.....	9,455.42
Stekall, Harry, Tulsa	13,066.06	.....	16,737.72
Stuart, Phil N.,* Shawnee	.....	.....	2,734.47
Snedden, George W., Tulsa	32,562.83	.....	47,041.92
Shepperd, J. D.,* Shawnee	.....	.....	20,475.74
Shepperd, Dan,* Shawnee	.....	.....	10,694.00
Sparks, Harriett W.,* Shawnee	.....	.....	11,601.50
Snowden, Pearl M.,* Philadelphia, Pa.	.....	.....	5,372.04
snowden and McSweeney, New York City, N. Y.	65,583.64	87,020	88,000.53
Sulzberger, Dr. Nathan,* New York City, N. Y.	.....	.....	2,483.84
Simpson Fell Oil Co., Ardmore	23,311.00	.....	29,090.03
Simpson, W. E.,* St. Louis	2,015.96	.....	2,950.94
Simpson, A. O.,* Ardmore	2,015.96	.....	2,950.94
Schmidt, H. E.,* Columbus, Ohio	9,456.05	.....	9,486.37
Simpson, J. R., & Lou,* Duncan	.....	.....	2,210.80
Sykes, C. E.,* Ardmore	.....	.....	3,271.10
Sturm Drilling Co., Ardmore	12,361.09	.....	15,649.46
Slough, E. D.,* Ardmore	.....	.....	2,602.08
Surber, O. B.,* Chickasha	.....	.....	2,187.68
Swan, F. P.,* Konawa	.....	.....	4,516.42
Shimp, Ira,* Blackwell	.....	.....	6,210.39
Steinpfad, R. A., & Nina,* Shawnee	.....	.....	25,683.82
Seger, C. H., Tulsa	11,278.13	.....	16,876.25
Shirley, H. L. and Gracie L.,* Tulsa	.....	.....	2,692.50
Seay, W. D., and Clyde,* Oscar	5,156.00	.....	6,168.33
Snell, Katie, nee Brown,* Dustin	.....	.....	2,134.94
Sessions, Leigh J.,* New York City, N. Y.	.....	.....	4,522.00
Sparks, L. O., admr.,* Oklahoma City	.....	.....	21,647.95
Savoy Oil Co., Tulsa	8,026.27	4,769	9,544.10
Spring, Earl,* Ryan	.....	.....	3,495.91
Simpson, Susan A.,* Tulsa	.....	.....	7,558.23
Stewart, William E.,* Wellsville, N. Y.	.....	.....	2,067.49
Secor, Louis W.,* Utica, N. Y.	.....	.....	2,183.41
Sheridan Oil Co., Tulsa	14,578.27	16,002	20,208.41
Spencer, T. J., and Alice,* Wewoka	.....	.....	6,101.08
Schermerhorn, J. B., Inc.,* Ardmore	3,012.04	.....	3,829.77
Schermerhorn-Young Co. Ardmore	1,362.40	.....	1,931.22
Schermerhorn Oil Co., Minneapolis, Minn.	9,524.99	.....	10,620.86
Schermerhorn, J. B., Inc., Minneapolis, Minn.	63,542.31	.....	78,363.95
Schermerhorn Ardmore Co., Minneapolis, Minn.	96,173.42	.....	98,253.04
Schonwald, Morris,* Oklahoma City	.....	.....	2,589.68
Schonwald, Dave,* Blackwell	.....	.....	2,782.00
Superior Oil Corp., Tulsa	179,657.42	.....	247,208.29
Superior Oil Corp., Tulsa	.....	435,244	26,979.36
Skirvin, W. B.,* Oklahoma City	.....	.....	2,872.70
T			
Turman Oil Co., by receiver,* Tulsa	9,471.33	.....	12,445.69
Tull, Vida M.,* Oklahoma City	9,585.54	.....	15,096.22
Taylor, Dr. Jos. C.,* New York City, N. Y.	.....	.....	7,242.61
Taylor, H. H., Tulsa	.....	.....	56,130.32
Tannell, K. C., Chickasha	.....	.....	3,985.12
Tally, T. F.,* Tishomingo	.....	.....	4,057.38
Tally, T. F.,* Tishomingo	.....	.....	4,057.38
Tully, Martha Nadine, now Andrews,* Muskogee	.....	.....	2,457.87
Towes Royalty Co.,* Crisfield, Md.	.....	.....	2,543.97
Towes, A. W.,* Crisfield, Md.	.....	.....	5,030.14
Thornton, David F.,* Muskogee	.....	.....	2,092.66
Travis, Sarah Leota,* Dover	.....	.....	3,851.08
Tucker, F. E.,* Ardmore	1,851.71	.....	2,292.75
Turner and Lewis,* Holdenville	.....	.....	2,093.41
Troy Oil & Gas Co., Sapulpa	2,104.17	.....	2,343.04
Thomas, R. S.,* Purcell	.....	.....	25,584.33
Thompson, Roy B.,* Tulsa	.....	.....	5,520.92
Thompson, William M.,* Tulsa	.....	.....	5,588.96
Thompson, S. F.,* Okemah	.....	.....	3,135.59
Thompson, Milton,* Cushing	2,296.26	.....	3,035.41
Tidal Oil Co., Tulsa	.....	Gas	34,241.13
Tidal Oil Co., Tulsa	620,750.89	.....	832,834.30
Tidal Oil Co.,* Tulsa	9,201.67	.....	10,458.48
Transcontinental Oil Co., Tulsa	85,400.47	.....	108,055.43
Transcontinental Oil Co., Tulsa	.....	178,385	12,474.16
Tiger Mountain Oil Co., Tulsa	3,877.57	.....	4,978.99
Thlocco Oil Co., Tulsa	9,774.02	.....	14,876.39
Turman Oil Co., Tulsa	4,994.20	2,319	6,604.97
Turman Oil Co., Tulsa	137,825.00	227,139	219,821.31
Twin S ate Oil Co., Tulsa	796,668.97	.....	886,435.20
Twin State Oil Co., Tulsa	.....	Gas	37,575.33
Twin State Oil Co.,* Tulsa	.....	.....	19,473.73
Texas Pacific Coal & Oil Co., Thurber, Tex.	40,080.70	7,946	34,538.90
Texas Company Production Dept., Tulsa	1,135,180.42	.....	1,527,586.40
Texas Company Production Dept., Tulsa	.....	Gas	120,546.67
Texas Company Production Dept.,* Tulsa	6,666.29	.....	10,996.45
Texas Company Production Dept.,* Tulsa (suspense)	.....	.....	8,240.36
U			
Umburn, W. L., Weleetka	.....	.....	18,378.12
Umburn, Gillia, Weleetka	.....	.....	9,117.91
United Eight Oil Trust, by H. B. Fell, receiver, Ardmore	9,397.67	.....	13,267.48
Urbansky, Jos., & Virgie, A. J.,* Oklahoma City	4,074.15	.....	5,862.64
U. S. Royalties Corp.,* New York City, N. Y.	14,114.12	.....	20,221.61
V			
Vierson, R. W.,* Okmulgee	.....	.....	2,843.35
Viersen, A. A.,* Okmulgee	7,906.85	.....	10,878.96
Viersen, Sam K.,* Okmulgee	4,808.75	.....	6,499.12
Viersen Oil & Gas Co.,* Okmulgee	15,413.11	.....	20,474.20
Voorhees, Leon G.,* Oklahoma City	.....	.....	15,012.39
Valley Osage Oil Co., Tulsa	18,668.52	.....	22,972.72
VanGraafeilidnd, C. P.,* St. Louis	.....	.....	3,742.04
Varnum, W. Frank, and Eliza,* Shawnee	.....	.....	17,960.22
Vassar, Amanda,* Tulsa	.....	.....	3,169.02
Vernon Oil & Gas Co., Blackwell	6,416.57	.....	9,675.15
Villines, T. F.,* Maud	.....	.....	2,551.54
Vennex Oil Co., Wichita Falls, Tex.	50,045.39	.....	69,909.65
Vensel, Elliott, Tulsa	.....	.....	6,707.98
Vance, S. E.,* Tulsa	2,116.69	.....	3,313.52
Vacuum Oil Co., Houston, Tex.	111,165.16	222,682	172,764.22
Van Buskirk, Carrie,* Seminole	.....	.....	34,499.37
W			
Wolverine Petroleum Corp., St. Louis	169,097.63	.....	209,710.95
Wolverine Petroleum Corp., St. Louis	.....	256,872	15,821.89
Witwer, L. W.,* Tulsa	.....	.....	3,430.23
Woods, W. E.,* Cox City	.....	.....	3,330.56
Wood Oil Co., Tulsa	.....	.....	9,927.90
Wellsville Oil Co., Wellsville, N. Y.	10,690.34	.....	13,367.21
Watchorn Oil & Gas, Oklahoma City	10,290.42	.....	15,766.57
Wiley, Charles E.,* Maud	.....	.....	2,593.84
Weeks, Margaret S., Ardmore	6,295.25	13,748	8,849.78
Weber, Sophie,* Marshall	.....	.....	2,179.16
Welsh, Carrie B.,* Blackwell	1,638.69	.....	2,481.61
Welch, J. L.,* Blackwell	.....	.....	2,564.34
Walsh Oil Co., Tulsa	5,215.69	.....	6,426.37
Welsh, Jack T.,* Flushing, N. Y.	.....	.....	5,033.34
Westland Oil Corp., Tulsa	65,828.84	.....	102,466.14
Westerly Oil Co., Bartlesville	4,688.89	.....	6,537.41
Westheimer and Daube, Ardmore	186,758.08	.....	246,323.01
Westheimer and Daube,* Ardmore	15,182.84	.....	18,257.12
Winona Oil Co. of Delaware, Tulsa	34,837.29	.....	43,606.55
Winona Oil Co. of Delaware, Tulsa	3,113.93	.....	9,593.34
Work, E. P.,* Wewoka	.....	.....	2,694.26
Work, W. K.,* Wewoka	.....	.....	2,694.26
Wiser Oil Co., Sistersville, W. Va.	85,589.47	.....	104,597.02
Wilborn, S. A.,* Sulphur	.....	.....	9,340.12
Willmott, John W.,* San Diego, Cal.	.....	.....	29,569.66
Wentz Oil Corp., Ponca City	144,187.88	.....	228,326.18
Wentz Oil Corp., Ponca City	1,015.06	.....	1,514.98
Winkler and McQueen, Duncan	.....	.....	12,737.57
Wes ern States Royalty Co.,* Great Falls, Mont.	.....	.....	7,577.99
Westervelt and Noble, Oklahoma City	.....	.....	6,130.39
Wright, Archie K.,* Muskogee	.....	.....	3,662.93
Wright, J. H., est., Sapulpa	12,951.48	32,781	19,012.57
Walker, E. A.,* Oklahoma City	21,543.36	.....	27,576.39
Walker, C. C.,* Okemah	.....	.....	4,730.90
Wallace, W. L.,* Shawnee	.....	.....	4,141.92
Wallace, Lucille B.,* Gotebo	.....	.....	2,465.95
Ward, H. Z.,* Heavener	.....	.....	4,140.70
Ward, B. F., exec.,* Wilson	.....	.....	5,757.78
Worley, Wilhelemine,* Tulsa	.....	.....	22,350.93
Walcott, C. W., gdn.,* Coweta	.....	.....	3,303.99
Washington Royalties Co.,* Bartlesville	8,099.02	.....	11,599.95
Whitehill Oil Corp., Tulsa	10,327.21	.....	13,298.17
Whitehill Oil Corp., for partners, Tulsa	6,542.74	.....	8,426.28
Whitehill Oil Corp.,* Tulsa	1,738.85	.....	2,364.58
Whitehill, Howard J., and H. C. Weible, Tulsa	10,859.88	.....	13,726.90
Woodruff, Willie May, and L. J.,* Los Angeles, Calif.	.....	.....	3,504.00
Woodruff, Willie May, and L. J.,* Los Angeles, Calif.	.....	.....	6,040.99
White Eagle Oil & Refining Co., Wichita, Kans.	22,349.57	14,974	33,542.40
Woodruff, Leonard J.,* Los Angeles, Calif.	.....	.....	10,898.99
Wittmer Oil & Gas Properties, Pittsburgh, Pa.	5,208.78	9,880	8,524.01
Ward, C. H.,* Fillmore, N. Y.	.....	.....	2,032.77
Warner Caldwell Oil Co., Titusville, Pa.	23,855.46	.....	31,551.95
Wallace, J. E., Okmulgee	.....	.....	14,054.21
Whitney, E. W.,* Wewoka	.....	.....	32,103.36
Wilcox H. F., Oil & Gas Co., Tulsa	260,324.60	.....	370,223.01
Y			
Yost, Jennie May,* Shawnee	1,375.69	.....	2,006.40
Young, L. W.,* Oklahoma City	.....	.....	10,935.98
York Petroleum Co.,* Muskogee	2,577.59	.....	4,412.00
Youngblood, L. S., trustee,* Wewoka	.....	.....	10,173.67
Youts, Harriet E.,* Shawnee	.....	.....	41,313.54
Youts, C. A.,* Shawnee	.....	.....	18,220.06
Z			
Zimmerman, L. W., Chicago, Ill.	24,017.45	35,316	25,735.58
Zola Oil Co., Tulsa	10,115.44	.....	11,885.41
Zollinger, Jarvis, and Andrews, Shawnee	.....	.....	9,354.40

DOMESTIC EXPORTS OF PETROLEUM AND REFINED PRODUCTS

(Reported by the Department of Commerce)

		Month of June		6 months ended June	
		1928	1929	1928	1929
Petroleum:					
Crude	Bbls.	1,879,465	2,610,078	8,672,347	11,515,972
Crude	$	2,772,805	3,734,279	11,911,013	15,446,513
Total refined petroleum	Bbls.	11,331,208	11,432,587	64,575,142	60,974,645
Total refined petroleum	$	40,388,151	45,353,120	224,117,769	242,749,980
Gasoline, naphtha and other light products	Bbls.	4,679,862	5,698,711	25,250,563	28,346,095
	$	20,367,987	25,021,994	105,204,216	128,094,402
Oils, illuminating	Bbls.	1,631,912	1,760,553	11,240,276	10,223,979
Oils, illuminating	$	6,894,087	7,681,725	46,378,779	43,579,277
Gas and fuel	Bbls.	3,930,482	2,992,771	22,284,565	16,844,036
Gas and fuel	$	4,546,856	2,931,562	24,858,030	17,682,546
Lubricating	Bbls.	1,073,225	960,419	5,722,722	5,459,937
Lubricating	$	8,372,361	9,427,067	46,671,675	52,001,401
Other refined petroleum	Bbls.	15,727	20,133	77,016	100,598
	$	206,860	290,772	1,005,069	1,392,354
Paraffin wax	Lbs.	33,589,277	24,983,933	220,757,571	142,516,580
Paraffin wax	$	1,466,005	1,193,602	8,602,669	7,001,492

SUMMARY OF STATEMENTS RELATING TO BUSINESS OF VARIOUS PIPE LINES FOR MONTH ENDING JULY 31, 1929

	Gross stocks	Runs from wells	Other receipts	Regular del'veries	Other deliveries
Nat. Transit	692,912.76	268,968.24	977,899.58	448,413.13	791,473.66
S. W. Pa. P. L.	579,475.28	96,958.15	1,051,055.50	492,117.59	611,217.91
Eureka P. L.	1,209,058.70	378,139.18	427,528.00	268,871.91	542,345.89
Buckeye P. L. (Macksburg)	431,010.70	352,288.54	70,558.34	239,542.25	214,982.44
Buckeye P. L. (Lima, etc.)	2,470,370.27	141,314.51	2,980,070.32	1,656,505.17	1,084,839.21
Buckeye P. L. (Cleveland)	71,815.42	12,698.84	132,578.32	2,190.55	121,821.57
Indiana P. L.	638,128.50	5,565.67	3,205,931.93	1,426,217.69	1,689,930.34
Cumberland P. L.	559,326.34	217,391.68	228.71	200,632.22	.....
Southern P. L.	417,168.75	.....	223,029.54	67,284.46	207,391.23
N. Y. Transit	235,029.71	32,169.25	259,742.63	308,215.51	5,216.08
Northern P. L.	416,713.78	.....	606,972.86	173,766.22	347,945.54
Tuscarora Oil	265,071.90	.....	.....	.....	701,809.39
Total July 31	7,986,082.11	1,505,494.06	9,935,595.73	5,283,756.90	6,318,973.26
Total June 30	7,448,254.16	1,364,915.30	8,590,644.63	5,083,583.00	5,464,380.98
Difference	537,827.95	140,578.76	1,344,951.10	200,173.90	854,592.28

Natural Gas Developments

OHIO'S NATURAL GAS TO CENTRAL NEW YORK

Distribution of natural gas from Ohio fields in Central New York State is contemplated by the Columbia Gas & Electric Corp., which is seeking authority to purchase the outstanding common stock of the Binghamton Gas Works from the American Light & Traction Co., which owns practically all of the shares outstanding.

The Columbia Gas & Electric Corp., late in 1928 acquired a pipe line system from the New York Transit Co. running from Olean, N. Y., eastward to a point near Binghamton and then southward through New York and New Jersey, terminating at Garfield, N. J. By acquiring the Binghamton Gas Works, Columbia will be able to use artificial gas produced by that company as a supplemental gas supply to its natural gas output.

In May, 1928, Columbia acquired the entire stock of the Keystone Gas Co., serving the city of Olean through an exchange for preferred stock. This property has been connected to the transmission lines of the Columbia system, which already extended in Pennsylvania to within 20 miles of Olean prior to the purchase. From Olean the company also has a connection with East Aurora, not far from Buffalo.

Additional acquisitions of properties in western or Central New York or contracts for the supply of gas to the towns within this territory may be expected of the Columbia Gas & Electric Corp., which already serves most of Ohio, part of western Pennsylvania, northern West Virginia, northern Kentucky and parts of Indiana over its natural gas system.

The company's natural gas plant in Olean, connected through Pennsylvania with the Ohio fields, will be prepared to transmit gas eastward along the southern border of New York State to Binghamton. Although New York Transit pipes were used mainly for oil, they have been repaired and tested and are now ready for the transmission of natural gas.

CALIFORNIA WILL DOUBLE CONSUMPTION OF GAS

Production of natural gas in California during the past 12 months amounted to 316,830,147,000 feet, according to report made to the State Railroad Commission by Claude C. Brown, state gas administrator, for the fiscal year ended June 30, 1929.

Domestic and commercial sales absorbed 84,805,553,000 feet, industrial sales were 42,645,982,000 feet, field use, fuel and shrinkage took 153,800,963,000 feet, and the amount wasted was 77,590,724,000 feet.

Daily production from the oil fields is 1,457,812,000 feet, of which but 815,929,000 feet is being used beneficially.

Mr. Brown believes the conservation legislation, coupled with the work of the governor's committee, and the opening up of the San Francisco Bay area to distribution of natural gas from Kettleman Hills, will result in increasing consumption of 300,000,000 feet daily, bringing the total winter demand up to approximately 700,000,000 feet daily.

OPENS OFFICES IN CONRAD

The Pondera Utilities Co. has established offices in Conrad, Mont., and has opened a salesroom preparatory to completion of the line which this company is building from the Kevin-Sunburst Field to Conrad. The line that will serve Conrad will be continued to Choteau. A branch will be run to Valier if citizens of that town grant a franchise at an election to be held soon.

ARC-WELDED GAS LINE OF UINTA COMPANY NOW ALMOST COMPLETED

Gas will soon flow through the Uinta Pipe Line Co.'s new arc welded line from the junction of gathering lines, which is southeast of Rock Springs, Wyo., to Ogden and Salt Lake City, Utah. The total length of the line, when completed, will be 277 miles. Of the total mileage, 200 miles is of 18-inch pipe, the balance being of 16-inch pipe consisting of a 42-mile branch to Ogden and a 35-mile branch to Salt Lake City.

The pipe used in this gas carrier is of arc welded manufacture produced in 30-foot lengths having bell, and spigot with welding dam ends. Each length weighs 1,600 pounds. Due to the ruggedness of the country and the steep grades encountered, some of the pipe had to be snaked into position by tractor, after having been delivered as near location as possible by truck.

The customary practice of lining up a number of lengths of pipe to form a section is followed in the construction of this line. The number of pipe lengths in each section varies, depending upon the contour of the ground. In lining up a section, the spigot ends of the pipe lengths are inserted into the bell ends and the entire section, thus formed, is leveled by shoring or blocking up with timbers. One innovation which facilitates turning of sections, during welding operations, was introduced on this line. A set of four steel rollers consisting of two pair mounted on a steel channel base is placed on the top shoring timber on which the pipe rests.

Each Joint Tack Welded

After the pipe is lined up and leveled in sections, each joint is tack welded. This is necessary to keep the section intact, due to extreme changes in temperature which through contraction and expansion of the pipe causes it to open the joints or buckle, as the case may be. By tack welding, the pipe lengths are joined so that contraction and expansion acts on the section as one unit instead as separate pipe lengths.

Each joint in the section is arc welded twice, two separate beads being run around each joint. This is done to prevent all possibility of pin hole leaks. The first, or burning-in bead, is arc welded with three-sixteenth inch electrodes. Approximately three-fourths pound of electrode metal is used to weld the burning-in bead in the 18-inch joints on this line. The second, or finish, bead is arc welded with one-fourth inch electrodes, approximately 1¾ pounds being consumed in making the finish weld. On the firing line which is the scene of welding the pipe lengths into sections, welding speeds ranging from 8 to 12 joints per man per day are being obtained.

Section Welded Into Line

After the pipe is welded into a section, the section is then placed over the open trench on skids and welded into the line. This welding is known as bell hole welding. Being unable to turn the line, the operator must weld around the pipe, necessitating overhead welding. Only in this respect does bell hole welding differ from firing line welding. The speed of welding bell hole joints of this line varies from six to eight joints per operator per day.

To take care of the expansion and contraction of the finished line, caused by temperature changes, a special type of an expansion joint of all steel construction is welded into the line at intervals.

The major portion of this line is being arc welded by the owners, the Uinta Pipe Line Co., which is using 10 "Stable-Arc" welders, manufactured by the Lincoln Electric Co. of Cleveland, Ohio. They are of the gas engine driven type of 300 ampere capacity with a current range of 75 to 400 amperes, and operating at a speed of 1,500 r.p.m. The engine is of the 6-cylinder type which is so essential for machines at this speed to eliminate all vibration. It is directly connected to the generator by a flexible coupling and both mounted on a structural steel channel base. The welders are mounted on wagons and are moved along the line by teams.

This pipe line is the first of 18-inch size to be arc welded.

DISTRIBUTION TO BEGIN IN ROSWELL THIS MONTH

ROSWELL, N. M., Aug. 19.—Natural gas will be ready for distribution in Roswell during the present month, according to an announcement by officials of the Pecos Valley Gas Co., after completing an 8⅝-inch line from the Artesia Field to this ctiy. The gas is now at the city limits and various cities between Artesia and Roswell are now being served with the product.

The domestic rate for the gas is to be 67½ cents a thousand, compared to a rate of $2 a thousand for the manufactured product. The gas is to be used in a number of pumping plants in the farming sections surrounding this city.

There is now available 30,000,000 feet daily for use of Roswell alone, according to the announcement.

CHANGES IN DISTRIBUTION

SHREVEPORT, La., Aug. 19.—Further withdrawal from the retail distribution of gas in the Shreveport division by the Arkansas Natural Gas Corp. took place when franchises and distributing systems in a number of small towns and villages in the two States were transferred to the Southern Cities Distributing Co. The latter is the retail agency of the corporation and took over its retail franchises and properties in Plain Dealing, Belcher, Gilliam, Hosston, Pine Island Field, Bethany, La., and Bethany, Tex., East Point, Naborton and Red River oil fields, in Bossier, Caddo and Red River Parishes, and Doddridge, Garland City and Fouke, Miller County, Arkansas.

"DEL" WEAVER RETIRES

S. D. Weaver, agent of the Manufacturer's Gas Co., at Bradford and Warren, Pa., has retired from service after 22 years of connection with the firm. Having passed the age limit as adopted by the company he has been placed on the pension roll. His retirement became effective August 1.

D. A. Wilkinson of Olean succeeds Mr. Weaver as agent in Bradford and Guy O. McKinley has been promoted to the Warren position.

GREAT NORTHERN TO USE GAS

Opening another outlet for gas from the Kevin-Sunburst Field, the Great Northern Railway has closed a contract with the Great Falls Gas Co. for supplying its shops in Great Falls, Mont., with natural gas. The estimated daily consumption is approximately 4,500,000 feet. The Great Northern will be the second largest industrial gas user in the city, first being the local plant of the Anaconda Copper Mining Co., with a daily consumption of about 6,000,000 cubic feet.

DISTRIBUTION CONTRACTS FOR SOUTHERN NATURAL

Southern Natural Gas Corp.'s pipe line system, now under construction, will be one of the most extensive transmission systems in the world, and the first to link the vast fuel resources of the northwestern Louisiana gas fields with the "Industrial Southeast," according to an official announcement giving details of this development.

In the territories adjacent to its system the corporation will supply natural gas directly or through wholly-owned subsidiary companies to industrial users, and indirectly for industrial and domestic consumption through other distributors. A distribution contract has been entered into between the corporation and the Southern Cities Public Service Co., a subsidiary of the Central Public Service Corp., under the terms of which the corporation will furnish at wholesale the entire requirements of companies distributing gas for domestic and industrial purposes in Atlanta, Marietta and Rome, Ga.; Anniston, Gadsden and Tuscaloosa, Ala., and Columbus, Miss., all of which are comprised in the initial system.

It is estimated that about 43 per cent of the gas to be marketed during the first year of full operation will be sold under this distribution contract. The latter requires the system to be completed to such municipalities by February 28, 1930, and deliveries are to commence by that date. In addition to the initial system, Southern Natural Gas Corp. has agreed to extend its system for the delivery of gas at wholesale to Meridian, Miss., by June 1, 1930, and to Macon and Griffin, Ga.; and Montgomery and Selma, Ala., by September 1, 1931.

Contracts for the purchase of the natural gas required by the corporation have been signed with the leading producers in the Monroe and Richland Fields. These producers together control all but a small part of the proven gas acreage in each of the two fields.

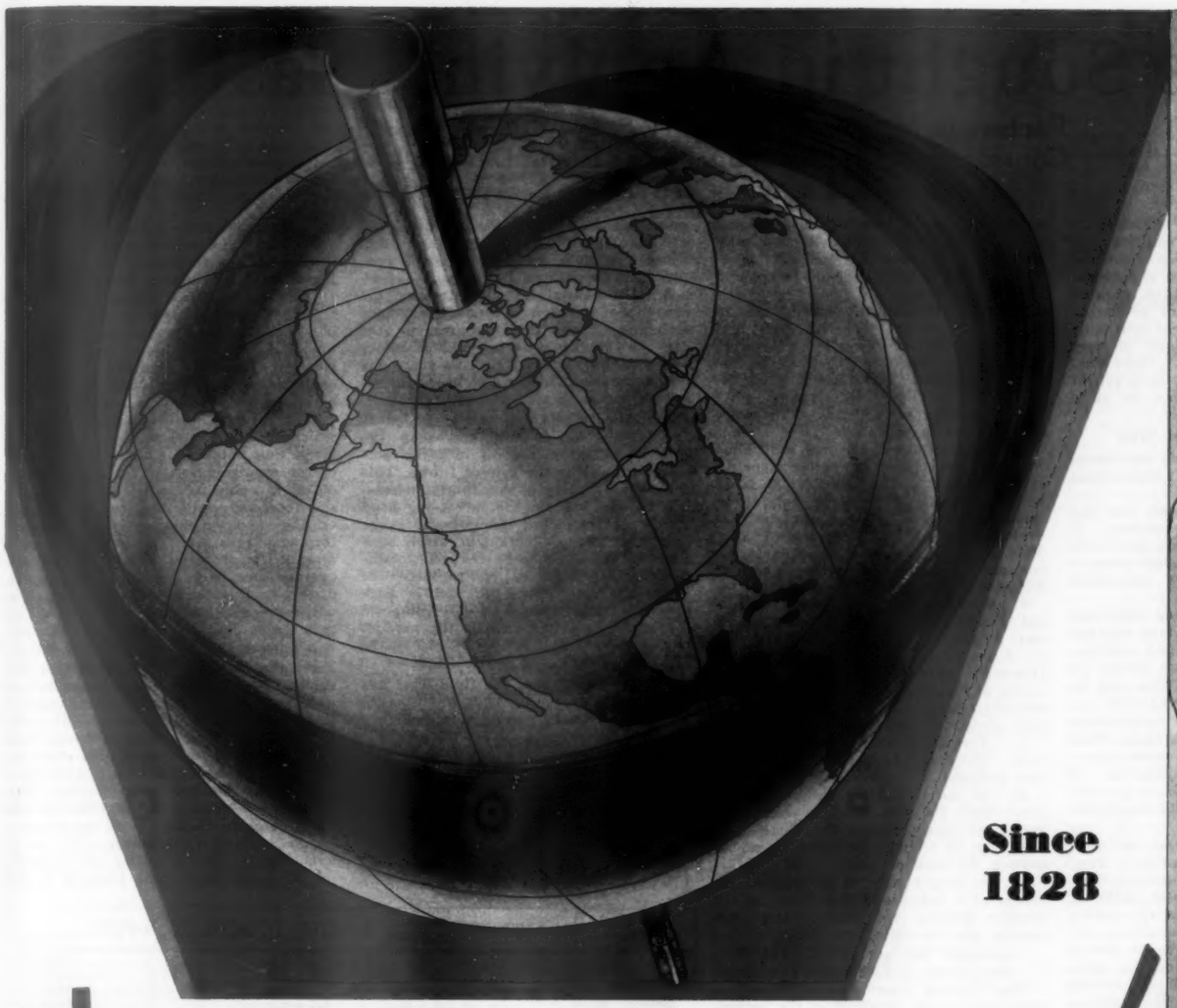
Based on proven territory alone, independent geologists have estimated the gas reserves in these fields at approximately 3,377,000,000,000 feet. The geologists have expressed the opinion that the reserves mentioned are sufficient to meet all requirements, including those of the corporation, for a period of more than 15 years. It is also estimated by the engineers that the entire system will have a daily net delivery capacity of approximately 150,000,000 feet of natural gas; that the demand for gas in available territory should average about 100,000,000 feet per day in the fifth year of full operation, with estimated peak daily deliveries of approximately 150,000,000 feet in that year, compared with an aggregate daily maximum of more than 160,000,000 feet of natural gas provided for under the gas purchase agreements mentioned.

STARTS SERVICE

HOUSTON, Tex., Aug. 19.—With the completion of the gas distribution system at Sour Lake by the United Gas Engineering Co. and the laying of 5 miles of line to connect with the Dixie Gulf Gas Co.'s trunk line from Northeast Texas to Port Arthur, Dixie Gas & Fuel Co., the distributing company of the United Gas Co., has started service to that city.

DIXIE TAKES DISTRIBUTION

HOUSTON, Tex., Aug. 19.—Dixie Gas & Fuel Co. of this city has taken over the gas distribution system in the city of Lufkin, Tex., from the Lufkin Natural Gas & Fuel Co. Dixie Gulf Gas Co., a sister company of the Dixie Gas & Fuel Co., has been serving the former Lufkin Gas company at the city gates.



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Sizes 2 inch to 13⅜ inch O. D.

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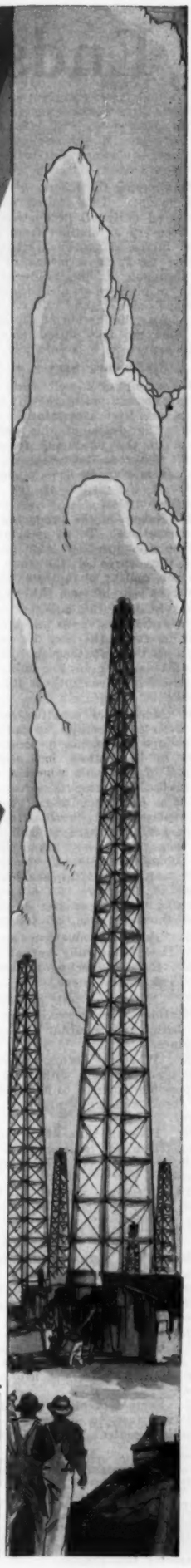
DRIVE PIPE DRILL PIPE *Sizes ⅛ inch to 24 inch O. D.*



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Sales Offices: CHICAGO, ILL. NEW YORK, N. Y. ST. LOUIS, MO. PITTSBURGH, PA. TULSA, OKLA. LOS ANGELES, CAL.

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Ends Sought in Applying Gas Lift

Factors in Making Preliminary Survey of Well Being Considered for Installation. Methods and Devices Used

Prepared by R. H. Pence, for the Bessemer Gas Engine Co.*

In applying the lift there is always an end sought.[1] The desired end may be increased daily oil production, increased oil recovery as distinct from oil production, increased gasoline revenue, cheaper lifting costs, or a means of producing oil incapable of being produced profitably with a plunger pump because of deep crooked holes or sand influx. There must be a clear distinction of the ends sought so that the installation may be made with a purpose to accomplish.

Preliminary Survey of Well

In examining a well being considered for an installation of the lift the general items are first ascertained.

1. The depth of the well and the depth of the producing formation. If more than one formation is producing then it is well to have a clear idea at least of the depth of the uppermost and the lowest.

2. Nature of the producing formation or formations. To so ascertain whether they are compact or loose and shifting, and the degree of the sand influx to the hole and to what degree they may be "roughed" in kicking the well over.

3. Size of the hole and controlling size of the casing or oil string. This will determine the area in which operation of the lift may be handled. If there is a liner in the hole, it is well to determine the depth of its uppermost point.

4. Mechanical condition of the well. To ascertain whether the casing or liner is collapsed and not permitting a free hole to its bottom but still allowing influx of oil, and whether the casing is in bad condition from corrosion, etc. If in a leaky condition then it should be replaced, or a new string run with a packer. If there is collapsed casing at some point not permitting passage of tubing, then the necessary submergence may not be attained. However, some cases of this sort can be overcome by running smaller tubing at the bottom and thus passing the collapsed point.

5. Initial production, and whether well flowed naturally or not.

6. Rate of decline of oil and gas, and gas factor curve.

7. Nature of oil production from formation—whether water or gas drive, or both, and relation of each to oil produced.

8. Whether bottom water present. Don't confuse this with water drive. It is possible at times to hold bottom water in check with application of back pressures.

9. Present rate of production and comparison of this amount to nearby wells in same pool which are similarly spaced.

10. Present method of production, and length of time in operation during day.

Survey of Well—Specific

Before the actual installation of the lift, it is essential that a survey be made of the well to obtain specific information of its operating characteristics. Procedure may be made in some such order as:

1. Gravity of oil is ascertained. This is done to determine its heaviness and for reference after the lift is in operation.

2. Sample of oil is submitted to distillation test to determine commercial gasoline content. This is not an essential test, but is helpful in determining the proportionate increase in such content after lift installation and as a check on the gasoline revenue before and after installation.

3. Pressure-charcoal test on gas to determine gasoline content per Mcf before installation. This is essential in order that a check may be made on the relative increase in total gasoline recovered.

4. Specific gravity of gas. This is not essential but is helpful.

5. Temperature existing in well. This will be essential if any other type of expansion of gas than isothermal is to be considered. It will be helpful in consideration of flow of oil and gas through the producing formation also. This is accomplished by lowering a maximum reading thermometer to several different known depths in the well.

6. Solubility of gas in oil at different pressures and temperatures. This test is not essential, but will amount to 1 or 2 per cent of calculations. However, reference may be made to curves or formulas already established for solubility factor and resultant viscosity and surface tension.

7. Formation or rock pressure of well. This may be determined by several methods.

A. If the well after standing sufficient time for the fluid to reach its maximum height makes very little gas, this head of oil may be taken as representing the rock pressure.

1. Its height may be determined by means of a bailer and then knowing its specific gravity the pressure on the bottom may be calculated thus:

pressure lbs. sq. in = .434 X Spec. Grav. X feet height of column.

This method does not take into account any water standing at the bottom or variation of the density of the oil in the upper reaches of the column due to gas bubbling through the oil. A better method of ascertaining the true pressure at the bottom is by means of the so-called depth bomb.

2. Its height may be determined by the depth bomb. This method gives a true measure of the pressure at the bottom supporting the column of fluid standing in the well. The bomb is dropped into the well slightly off bottom and at a known depth.

B. If the well is making considerable gas with maximum fluid height in the hole, the following methods may be followed:

1. Shut in test. The casing is made gas tight at the surface and a recording pressure gauge is attached to the casing. The gas bubbling through the oil then will collect above its surface and drive the oil back into the formation, and thus the pressure will continue to rise at the casinghead while the oil is being displaced. When maximum pressure is reached, as indicated by the curve flattening out on the chart, this pressure may be taken to mean the rock or formation pressure. In wells having more than one producing horizon this pressure may mean the maximum pressure of some one of the sands and therefore must indicate the minimum rock pressure of the well. This method may be used also in wells not having sufficient gas to drive the oil out of the hole in a reasonable length of time, by admitting compressed gas to the casinghead and pressures recorded as before. The pressure resulting from the head of gas must be added to the casing pressure if accuracy is sought.

2. Depth bomb with closed-in casing. This method is used especially where the well has two or more producing formations and it is suspected that the upper formations have a lower rock pressure than the lower. The bomb will give a reading at the bottom from which maximum formation or rock pressure may be calculated.

8. Differential test to determine the capacity of the well to produce oil under different differential pressures, or the capacity of the well to produce under different back pressures less than the rock pressure. This may be accomplished by the following methods:

A. The well is swabbed or bailed as free of oil as possible and then the rate of influx of the oil into the hole is determined by the rate of fill-up. This fill-up takes place at constantly increasing pressure due to the increasing head of oil in the hole; therefore, a gauge is had of the production at given back pressure, which may be changed to differential pressure by subtracting the back pressure from the total rock pressure. The volume of oil filling up the casing is determined by the product of the height risen in given time by the area of the casing in square feet.

1. The height that the fluid level has increased above the point at which bailed or swabbed in a known length of time may be determined by ascertaining the new fluid level with a bailer or a float with an electric contact. The fluid is allowed to continue rising in the hole and several levels are ascertained at known lengths of time.

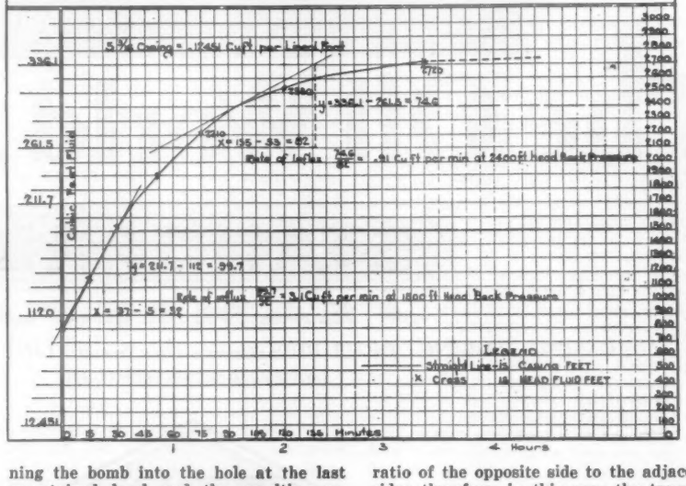
2. The height that the fluid level has increased above any former level in known time may be determined by running the bomb into the hole at the last ascertained level and the resulting recorded pressure may be transferred to feet of height, and thus the volume of influx may be calculated. The pressure at the bottom resulting from this new level will be determined by addition of pressure to the former level pressures. Or the bomb may be run to the bottom each time and the total pressure will be known at once and the increased volume may be determined by ascertaining the increase of pressure over the preceding level, and changing this to the equivalent feet in height and multiplying by the area of the casing.

3. The rate of influx or fill-up may be determined by a recording depth bomb. With such an instrument the well is bailed or swabbed as low as possible, and the instrument lowered to the bottom of the hole and allowed to stand until the fluid has reached its maximum level, and then the casing closed in to establish formation or rock pressure. When the instrument is withdrawn a curve will have been recorded from which an identical curve may be constructed as will be described for the former two methods.

Method of Determining Rate of Production at any Differential Pressure

This is simply working up the data obtained from surveys as described in 1 and 2. On graph paper of ample proportions to facilitate readings, the fill-up curve is plotted lineal feet of fluid in casing against the time element. This consists of plotting the several points at which the fluid level stood at the end of given time intervals. Knowing the area of the casing in square feet, the volume of oil in cubic feet will then be known simultaneously with the feet head of oil on the sand which is readily converted to pounds pressure. This curve then represents the rate of production of oil against any back pressure. A tangent drawn to this curve at any point then will represent the rate of influx of oil at that point and the "steepest" tangent will represent the greatest rate of influx.

By the definition of a derivative the "slope" or "steepness" of a tangent to a curve represents the rate of change of the Y co-ordinate (volume of oil) with respect to the X co-ordinate (time). Thus the slope of the tangent of this curve at any point represents volume (cubic feet) of influx per minute at that point. The slope can be computed by remembering that the slope of the line is the tangent of the angle the line makes with the X axis (time). By definition the tangent of the angle in a right triangle is the ratio of the opposite side to the adjacent side; therefore, in this case the tangent of the angle is $\frac{\text{Y or (volume)}}{\text{X or (time)}}$.


RATE OF FLUID INFLUX IN WELL
5 3/16 Casing = .1745 Cu.ft. per Lineal Foot
Cubic Feet Fluid
Lineal feet of casing from bottom
feet head of fluid
Rate of Influx
.91 Cu. ft per min at 2400 ft Head Back Pressure
Rate of influx
3.1 Cu.ft per min at 1800 ft Head Back Pressure
Minutes
Hours

Referring to the graph, which represents the influx of oil at any back pressure, we draw a tangent to the curve as illustrated in the upper case. Any two points convenient are chosen on the tangent and a right triangle is drawn as is shown in dotted lines. The length of the Y dotted line can be made to represent cubic feet influx from the scale on the left. The length of the X dotted line can be made to represent minutes from the horizontal scale. Therefore, dividing cubic feet volume by minutes gives volume in cubic feet produced per minute. Thus:

$$\frac{Y}{X} = \frac{336.1 - 261.5}{135 - 53} = \frac{74.6}{82} = .91 \text{ cu. ft. per minute}$$

which is the rate of flow of oil into the well against a head of that oil of 2,400

*This is the sixth of a series of articles on air and gas lift. The first article of the series was published in the April 13 issue of The Oil and Gas Journal; the second, May 2; the third, May 30; the fourth, July 11; and the fifth, August 15.

[1]The author is indebted to M. W. Haines, Chief Engineer, Loomis Oil Well Control Co., Long Beach, Calif., for assistance in preparing this chapter.

feet, because that is the point of tangency of the curve.

Obviously, the tangent drawn in the above case is not the "steepest" tangent that could be drawn to the curve; therefore, another tangent is drawn representing the "steepest" one possible as shown in the lower case. Choosing any two convenient points on the tangent as we did in the previous instance and drawing the triangle, the length of the dotted line Y is found to be 211.7 — 112 and length of dotted line X is found to be 37 — 5. Therefore:

$$\frac{Y}{X} = \frac{211.7 - 112}{37 - 5} = \frac{99.7}{32} =$$

3.1 cu. ft. per minute

which is the rate of flow of oil into the well at the point of tangency of the curve. It will be noticed that this tangent may have a number of points of tangency to the curve, for it follows closely the curve for some distance. This can be construed to mean that the rate of influx into the well is approximately the same for a number of different heads of oil or back pressures. Such a condition exists because of the gas held in solution, because of pressure, and resulting in lessened viscosity and surface tension of the oil. Therefore, the oil has more fluidity at some higher pressure and may flow into the well from the formation at the same rate with less differential than it would with a larger differential and less fluidity. This phenomenon was conclusively shown by Bennett and Sclater.[1] Therefore, it is desirable to choose the highest head possible against which the oil will flow into the well at maximum rate because of a number of reasons, chief of which is a lower gas factor. In this case the highest head or back pressure against which to produce the oil approximates 1,500 feet.

The head of the fluid in the well at which the maximum production flows into the well is converted to pounds per square inch to facilitate calculations. This is done by multiplying the factor .434 by the specific gravity of the oil and then by the feet in height of the head.

This may be construed to mean that the total back pressure applied at the pay sand must not exceed this pressure. Therefore, within this range of pressure the lift must be operated. The eductor must be so proportioned that the oil will be lifted to the surface at the rate at which it is capable of being produced into the well and the sum of the forces acting downward, to raise it at this rate, must approach this margin of pressure. In other words, the differential at which this amount of oil flows into the well must not be diminished. The differential is the difference between the rock pressure and the total back pressure at the face of the sand.

For example, if it were known that in a given well of 500 pounds rock pressure, the required differential to produce 100 bbls. of oil per day is 300 pounds, then the margin of pressure in which to work must be so designed as to approach this condition when the lift is in operation.

Devices for Determining Depths of Liquids and Pressure Resulting From Corresponding Heads

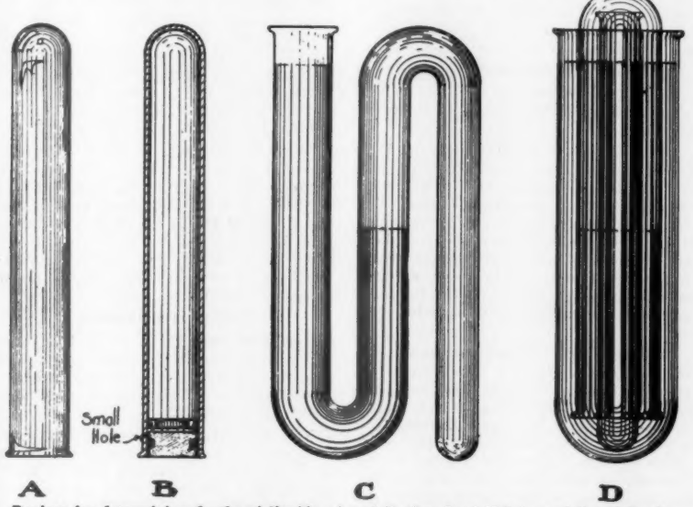
Some simple devices for such work are illustrated. All are based on the principle that as the depth of the liquid increases the pressure caused by the increasing head will also increase.

Figures A and B are devices which the late Lord Kelvin[2] contrived and made use of in determining the depth of sea waters in lieu of the customary weight and line. The advantage, in his case, of the device over the line was that the device would determine the vertical depth while the line would only indicate the length of line paid out. The weight and line might meander many feet from the vertical position.

Figure A is nothing more than a slender glass tube ground or "frosted" inside; this, when lowered into the liquid, open end down, will indicate the degree the enclosed gas had been compressed by the distance from the bottom of the tube that the liquid had "wet" the frosted inside surface. From this it is an easy matter by Boyle's law, $P_1V_1=P_2V_2$, to determine the pressure it has been subjected to and hence the depth it has been immersed.

It is obvious that an open tube of this nature would not be at all suitable for use in an oil well, for the gas accompanying the oil would tend to gather in the tube and thus give an erroneous reading.

Figure B is a similar device to that illustrated in Figure A, except that instead of the ground inside surface, a close fitting ring is forced upward by the piston, as shown, and which remains there to tell the same story as the height of "wetness" told in the first device.



Devices for determining depths of liquids. A and B after Lord Kelvin, and C and D after Phillip Jones.

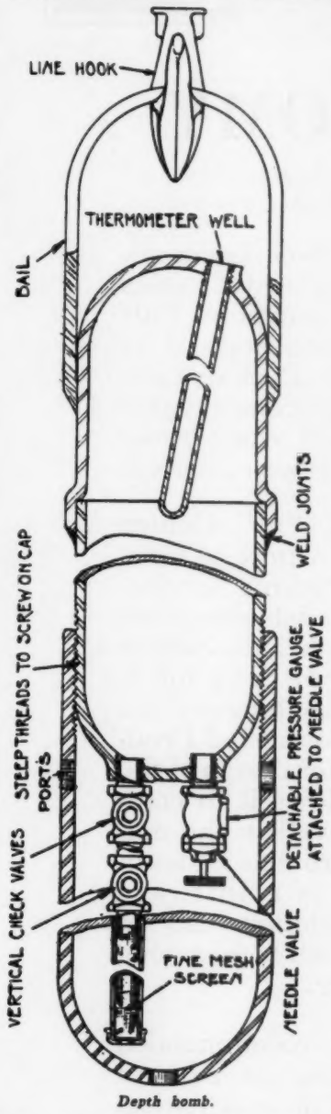
Figures C and D[3] illustrate an adaptation of the principle made use of in A and B. In Figure C, the mercury in the left tube, when lowered in a liquid is forced over the lip of the center tube and is caught and retained in the right-hand tube. Then knowing the amount of spilled-over mercury and the initial volume of the enclosed gas, it is an easy matter to determine the depth and pressure it has been subjected to in the surrounding liquid by means of Boyle's law, mentioned above.

Figure D is the same device in principle as Figure C. It is made accessible and of metal to prevent easy breakage and hence to enjoy better adaptability in actual use. It consists of three tubes closed at one end and open at the other, assembled as shown. By covering half of this figure it will be seen that it is identical with Figure C. To protect the mercury, the whole assembly is slipped inside a bailer and the bailer fitted with water.

Devices of this kind may be used to determine the pressure existing at the face of the pay sand under most conditions and the resulting fluid level. It is obvious that a maximum reading thermometer must be used to obtain fair accuracy, for the temperature in the well is often two or three times the atmospheric temperature in degrees Fahrenheit.

Such a device as the "depth bomb" has been used with very good success. It gained the name in the field where the men were astonished to find that the device when pulled from the well had such a high pressure—sometimes 1,500 to 1,600 pounds.

The depth bomb may be constructed along such lines as are illustrated. Differing ideas have produced different types. Steel ballchecks were found to cut badly from sand, but rubber ballchecks have given good results. The big feature of the depth bomb is that it gives a direct reading in pounds per square inch pressure.



Depth bomb.

The method commonly used in employing the depth bomb for determining the rate of fill-up or the rock pressure is as follows: The device is known to be in good order; the bomb is empty of all fluid; the maximum reading thermometer is in place and well shaken down; the bomb is pumped up by a hand pump to about 20 or 30 pounds pressure to make sure the ballchecks are seating; the cap is screwed on and the bomb is attached to the sand line and lowered into the well to a given depth. After standing a minute or so it is brought to the surface and the cap unscrewed and the pressure gauge attached and the cock opened. At the same time an ordinary thermometer is inserted in the thermometer well and the temperature taken with the pressure reading. Then the pressure is converted to the pressure existing under the temperature as recorded on the maximum reading thermometer. This will give the pressure existing in the well at the depth the bomb was lowered to under the conditions at that time.

[1] Some new aspects of the gas lift. Page 116. Petroleum Development and Technology in 1926, Petroleum Division, A.I.M.E., New York City.

[2] New International Encyclopedia—Soundings—page 304.

[3] Devised by Phillip Jones of Jones and McLaughlin, and claimant of Patent No. 1,102,152.

EASTERN FIELDS

(Continued from Page 82)

Kelley and others have their second rig up on the J. A. Kelley farm.

In Lee district, Calhoun County, the Hope Construction & Refining Co. has a rig up for a test on the Garrett Hatt farm. In Center district of the same county, Roth Well and others have a rig ready for a test on the Bruce Ferrell farm. In the same district, Snodgrass Brothers have a rig up for their No. 1 on the Umstead Jackson farm.

Location for Second Test

In Curtis district, Roane County, D. W. Law & Co. have made the location for a second test on the L. M. Biddle & Co. farm. In Reedy district, the Heck Oil Co. is due in the sand at a second test on the R. W. Allen farm and building the rig for No. 3 on the same farm. In Sherman district, the Hope Natural Gas Co. has made locations for tests on the M. W. Stump and S. A. Hayes farms and rigging up on the F. S. Barr farm. In the same district, Clem S. Morris & Co. have a rig up on the Sarah E. Hersey farm. In Lee district, Everett Starcher & Co. are drilling on the C. C. Starcher farm. In the same district, F. F. McIntosh has started to drill on the George Griffin farm. L. F. Bickel is drilling on the John Harris farm and W. H. Bickel is drilling on the Tumer & Arthur farm.

Located in Smithfield district, Roane County, the Ohio Valley Gas Co. has a 4-bbl. pumper in the Big Injun sand at a test on the F. Morris farm. In Harper district, the United Fuel Gas Co.'s test on the J. Westfall farm, is a gasser in the Salt sand. In Spencer district, Grow & Decker have a light pumper in the Big Injun sand at a test on the C. Kendal farm. In Sherman district, Calhoun County, F. F. McIntosh has a gasser in the Big Injun sand at a test on the Doc Stump farm. In Center district, Snodgrass Brothers have a gasser in the same formation at a test on the William Buck farm. In the same district, Oscar Garrson has a duster in the Big Injun sand at a test on the Betts-Stevens farm.

Gasser in Lincoln County

In Duval district, Lincoln County, the United Fuel Gas Co. has completed No. 3,911 on the Horse Creek Land & Mining Co.'s tract. It is a gasser in the Berea grit. In Jefferson district, the same company's No. 3,907 on the Della Mullens farm is a gasser in the same formation. In the same district, Earl Cameron's No. 5 on the J. A. Stone farm is a gasser in the Berea grit.

Located in Center district, Gilmer County, the Hope Natural Gas Co. is drilling on the D. Stout farm. In DeKalb district, McCall & Co. have started to drill on the B. T. Frymyer farm. In Otter district, Braxton County, H. C. Zogg has started to drill on the Victor Sutton farm. H. C. Zogg has also made a location on the A. M. Couger farm. In Church district, Wetzel County, the Delmar Oil Co. has started to drill on the Anna Palmer farm.

In Ellsworth district, Tyler County, the Reno Oil Co. is starting on the D. H. Tallman farm. In the same district, the Oakland Oil & Gas Co. is spudding in on the L. A. Watkins farm. In Union district, Tyler County, the State Police have started to drill on the Emma Hanes farm. In Lincoln district, the Ohio Oil & Gas Co. is due in the sand on the D. C. Smith farm. In Cameron district, Marshall County, G. B. and A. C. Patterson have started to drill on the Lindsey Earnest farm.

ECONOMY

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The Garlock Packing Company

Manufacturers of Mechanical Packings

Palmyra, N. Y., U. S. A.

OIL COMPANY USE OF INLAND WATERWAYS

(Continued from Page 44)

the benefit it derives from water transportation has thus far been merely to enable it to get gasoline to points which it could not supply by rail and only at a high cost by automotive transportation.

"We believe the present improvements being made in the Ohio River will take care of any further use we may make of that river," a letter from the company states. "The Muskingum River, however, probably would have to be further improved before we or any other company could make any great use of it, for it is our understanding that the 6-inch stage of water, which is supposed to be maintained, is not always so maintained. At present this is of no great importance to us since the little navigating we do on the Muskingum River is only on its lower reaches. It is possible that in the future, however, we might be interested in barging gasoline from our refinery near Cincinnati up the Ohio River and also up the Muskingum River as far as Zanesville.'

Equipment used by the Standard of Ohio Co. is described as follows:

"We use a 60-horsepower tow boat and two barges, totaling approximately 60,000 gallons capacity, for transporting gasoline and kerosene to a number of points on the Ohio River near Marietta, Ohio, which do not have rail connections. The tow boat used is powered by a gasoline engine; the barges are steel hulled.

"If your survey includes the Great Lakes, we might add that we have a small boat, the 'Red Crown,' which we use on Lake Erie to deliver gasoline to motor launches and other lake craft.

"The waterways used are the Ohio River, and, on occasions, the Muskingum River. The traffic carried consists only of gasoline and kerosene, and approximately 1,000,000 gallons a year are transported with the above mentioned equipment on the Ohio and Muskingum Rivers. This did not vary much over recent years."

American Republics Corp.

E. G. Floeter, secretary of the American Republics Corp., replies to inquiries as follows:

"The movement of petroleum in bulk by barges provides expedient and economical transportation and means considerable saving in freight costs. The enormous saving resulting from transportation of bulk oils by ocean-going tankers has placed this means of transportation in the foreground, and has been adopted by all companies who have the facilities necessary to accommodate sizeable cargoes.

"We feel that further deepening and widening of the Houston Ship Channel is desirable. This will allow larger vessels to enter and to take care of the traffic of the port which is increasing from year to year. One other desirable improvement, which is now before the United States Engineering office at Galveston, is the deepening and proper marking of the channel from Morgan Point, Tex., to Cedar Bayou, Tex.

"Number of craft, etc.: Steel tankers 4, 26,448 deadweight tonnage; 12,391 net registered tons. Steel tank barges (nonpropelled), six, 8,000 tons capacity, 3,841 net registered tons.

"Waterways used, etc.: Tankers — United States Gulf ports, principally Houston, Aransas Pass, Beaumont, Port Arthur and New Orleans. Atlantic Seaboard—principally Norfolk, Baltimore and New York.

"Barges, 3: Gulf Coast, Houston and the various terminals on the Houston ship Channel, Galveston, Texas City, Sabine district, and Corpus Christi district.

"Barges, 3: New York, Atlantic Seaboard from New York to terminals on Long Island Sound, and to points as far east as Fall River, Mass., and from New York to terminals on the Hudson River and in the New York State Barge Canal, as far north as Utica.

"Kind and amount of traffic carried, etc.: Principal products carried are crude petroluem and refined products.

"Tankers: Approximately 475,000 tons annually.

"Barges: Approximately 350,000 tons annually."

Atlantic Refining Co.

The Atlantic Refining Co., by Robert C. Tuttle, manager, submits figures showing craft employed and traffic carried on inland waterways in 1926, 1927 and 1928. This company carried creosote in barrels. In 1926 the quantity of petroleum and its products carried amounted to 30,017,307 bbls.; 1927, 36,807,069 bbls.; and 1928, 42,069,681 bbls.

The larger part of this transportation was on the Schuylkill and Delaware Rivers, the quantity in 1928 being 18,019,379 bbls. The company employs water craft on the following rivers:

San Pedro Harbor, Mississippi River (Destrahan, Baton Rouge, Chalmette); Providence River (Kettle Point); Port Arthur district (Sabine, Port Arthur, Atreco, Smiths Bluff, Beaumont); Taunton River (Fall River, Mass.); Turtle River (Brunswick, Ga.); Houston district (Baytown, Pasadena, Texas City, Sinco, Houston); Boston Harbor (East Braintree, Chelsea, Everett); Galveston, Tex., New York Harbor, (Bayonne, Maurer); San Francisco Harbor (Richmond), (Oleum, Amarco); Potomac River (Washington, D. C.); Patapsco River (Baltimore, Md.); Casco Bay (Portland, Me.); Penobscot River (South Brewer, Me.); Cape Fear River (Wilmington, N. C.); Elliott Bay (Seattle, Wash.); Columbia River (Portland, Ore.); Elizabeth River, (Norfolk, Va.); Hudson River, (Newburgh, N. Y., Kingston, N. Y.); Christiana River, (Wilmington, Del.); Corpus Christi Harbor, (Ingleside, Harbor Island); New Haven Harbor, (New Haven, Conn.); San Luis Obispo Bay, (San Luis, Calif.); Cooper River, (Charleston, S. C.); Chesapeake and Delaware Canal; James River, (Richmond, Va.); Mantau Creek, (Paulsboro, N. J.); Salem River, (Salem, N. J.); Absecon inlet, (Atlantic City, N. J.); Cape Cod Canal; Roundout Creek, (Kingston, N. Y.); St. John River, (Jacksonville, Fla.); Great Egg Harbor and Little Egg inlet, (Brigantine, N. J.); Curtus Bay, (Baltimore, Md.).

The Atlantic Refining Co. in 1928 employed 1 tank steamer of 120,000 bbls. capacity, 10 of 79,000 bbls. each, 1 of 58,000 bbls., 1 of 22,500 bbls., 4 motor tankers of 58,000 bbls. each, 1 of 9,000 bbls., 1 of 112,500 bbls., 1 tow barge of 4,000 bbls., 2 of 4,500 bbls. each, 3 of 6,000 bbls., 1 of 6,600 bbls., and 2 motor barges of 4,000 bbls. each.

California Companies

The Standard Oil Co. of California states that improved waterways cheapen transportation and the company is heartily in favor of efforts to encourage their proper development.

The Standard of California has cargo and bunkers to the number of 39 with a total capacity of 1,579,177 bbls. of which its 15 tank ocean steamers provide volume capacity for 1,356,706 bbls. Two Diesel ocean tankers provide for 63,807 bbls. and three Diesel electric tankers for 37,389 bbls., the remainder being on inland waters.

The Associated Oil Co. has 3 bay steamers, 5 motor vessels, 4 scow tow barges, 7 tank vessels, 5 bay motor vessels, and other transportation equipment operating from several ports and in reference to the improvement of California waterways, recommends:

Dredging channel to Avon from Bulls Head to 30 feet. Mean low water in connection with deep water project to Stockton. Dredging Petaluma and San Rafael Creeks to depth of 8 feet. Especially near town where depths are decreasing.

GEORGE W. KEPPLE DEAD

George W. Kepple, 64, of Chicora, Pa., field superintendent for the Butler County Oil Refining Co., died at the Butler Hospital recently after a short illness.

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Pumps, Rotary—Lucey
Rotary Engines—Lucey
Boilers—Lucey
Travelling Blocks—Lucey
Rock Bits—Hughes
Tool Joints—Hughes & Lucey
Disc Bits—Guiberson
Crown Blocks—Lucey
Wiccapee—Rotary Drill Hose
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DISPOSAL OF OIL FIELD BRINES STUDIED BY BUREAU ENGINEERS

The disposal of the brines produced with crude petroleum and natural gas, which have long been a source of trouble to oil and gas operators as well as to farmers and stock-raisers in the vicinity of producing fields, has been studied by the United States Bureau of Mines, Department of Commerce. Several hundred barrels of such brines may be produced daily from some wells. Vegetation is killed when oil field brines are allowed to flow for a considerable time over the surface of the ground. The contamination of fresh water streams by oil field brines affects not only human and livestock water requirements, but also is destructive to fresh water fish life. Methods suggested for the disposal of oil field water are storage in evaporation ponds; evaporation of the brines for the recovery of commercially valuable dissolved constituents; diversion into surface streams; and return of the brines to suitable subsurface formations.

Often the production of oil field brines is decreased materially and the production of petroleum increased by the use of bottom hole plugs and by a general repair and cementing of wells, state Ludwig Schmidt and John M. Devine, in a report just published by the Bureau of Mines. The records of 22 wells cemented in the Cushing Field, Oklahoma, showed that prior to the repair work, the average total daily production was 242.5 bbls. of oil and 3,977.5 bbls. of water. The total production of the wells after being repaired was 910 bbls. of oil and 1,107 bbls. of water per day. Thus oil production had been increased 667.5 bbls. per day and the water decreased 2,870.5 bbls. per day by properly cementing the wells.

Although proper cementing methods and other types of repair work often will decrease greatly the amount of water produced with the oil, nevertheless, even after the completion of the well repairs, appreciable quantities of brines which require disposal, are frequently found to exist. In many fields, subsurface conditions such as encroaching edge water obviate effective remedial measures to reduce the water production. Also in wells where the water enters from the lower part of the producing sand there is a definite margin of depth to which the water can be plugged off without reducing the oil production. With these conditions existing it is evident that the disposal of oil field brines is an ever-increasing problem.

As a general rule, the chlorides of sodium, magnesium and calcium predominate in oil field brines. Sulphate and bicarbonate combinations are not unusual. In addition some of the brines contain small amounts of the rarer salts such as iodides, bromides and barium compounds.

The evaporation pond is by far the most commonly used means of handling salt water, mainly because of the comparatively low initial and operating costs. The pits ordinarily have an area of 500 to 10,000 square feet and a depth ranging from 1 to 15 feet.

From observations on evaporation ponds the following recommendations are made by the Bureau of Mines:

The evaporation pond should be free from surface drainage.

The evaporation surface should be increased to the maximum possible, and the depth should be held at a minimum consistent with the required storage facilities.

Wind should have free access from all sides.

B.s. and oil should not be allowed to accumulate on the surface of the pond.

At one plant in the Mid-Continent area dissolved salts from oil field brines are obtained in commercial quantities. Recovery of the salts from brines is an industry requiring considerable amount of technical skill and special equipment to operate at a profit. It is doubtful if the recovery of the common salts from oil field brines is economical at the present time, because natural deposits of salt and natural brines have a much greater concentration than most oil field brines. However, some oil field brines contain rare salts which have a high commercial value, and there is a possibility that some of these brines contain a sufficiently high percentage of rare salts such as iodides and bromides to make recovery processes profitable. The development of new and improved salt-extraction processes may make possible the economic recovery of the rare salts in some oil field brines.

The diversion of oil field brines into surface streams is generally prohibited by state laws. However, in some cases —as where a stream is naturally saline, or for other reasons—permission has been granted by state officials for such disposal.

Oil field brines are diverted into surface streams in several of the Texas fields, notably those located in Orange and Hardin Counties and the Powell Field. In general all of the operators in the field organize a mutual salt water company. The brines are collected at a central point and then pumped through pipe lines or, where the topography is favorable, are allowed to flow through open ditches to estuaries of the Gulf of Mexico or into rivers carrying a sufficient volume of water to prevent the addition of the oil field brines from increasing the concentration of salts to a harmful degree.

In several of the southern California fields the salt water is gathered into central pits from which it is pumped through pipe lines to the ocean. In this type of disposal it is necessary that great care be taken by the operators to prevent waste oil from accompanying the brine water. In the Powell Field, each lease is equipped with a series of oil and water separators to prevent oil from being carried into the gathering streams.

Recently some operators have tried the expedient of returning oil field brines to subsurface formations. This method, however, is not generally used. There is always the danger of subsequent contamination, even in isolated areas; also the subsurface formation, which may be used as a reservoir, is not always of sufficient thickness and porosity to take the brine at the required rate and at comparatively low pressures. If this method is used, great care must be taken that the brines are delivered to a reservoir formation from which migration can not take place with detrimental effect to sources of fresh water supply and to developed or potential oil and gas-bearing strata, either adjacent to or at a considerable distance from the reservoir.

Further details are given in Serial 2,945, "The Disposal of Oil Field Brines," copies of which may be obtained from the Bureau of Mines, Department of Commerce, Washington, D. C.

PROPOSE DUTY ON FUEL OIL

MEXICO CITY, Mexico, Aug. 19.—The Tariff Commission, which forms part of the Ministry of Finance, has for consideration a new import duty on American fuel oil of 20 centavos per 100 kilos, approximately 15 cents a barrel. At present there is no such duty Object of new tax is said to be protection of Mexican coal fields, located chiefly in the State of Coahuila, although the official contention is that the new charge is intended to replace existing consular invoices which amount to 4½ cents a barrel. West Coast oil consumers chiefly are affected by the new duty, as it is now cheaper for them to buy fuel oil in the United States than from Tampico because of the freight rates from Tampico. Several of the principal West Coast consumers are fighting the new duty.

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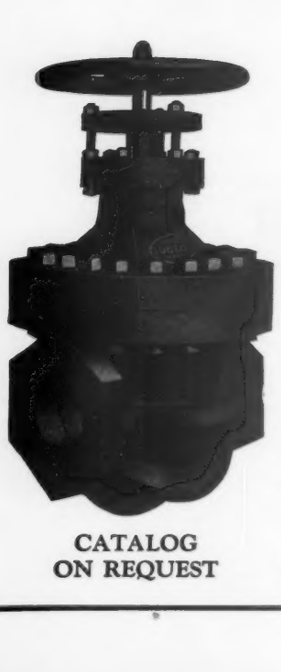

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CATALOG ON REQUEST

TRADE LUDLOW MARK

ROCKY MOUNTAIN AREA

(Continued from Page 62)

made 10 feet this week and is drilling at 5,370 feet with no important changes. Utah Southern Oil Co.'s No. 1 King, Section 13-23-20, Salt Valley, Grand County, pulled the 6¼-inch to replace some bad joints. Total depth is 3 840 feet. The Phillips Petroleum Co.'s No. 1 Shick, Section 16-27-16, Wayne County, is drilling at 5.225 feet with hole full of water. Cisco Springs Syndicate's No. 1, Section 9-20-23, Grand County, is drilling at 1,400 feet, and Boulder Knoll Oil & Gas Co.'s No. 1 Endter, Section 17-34-25, San Juan County, is shut down for parts at 2,800 feet.

COLORADO

There is considerable activity in Las Animas County in the southeastern part of Colorado due principally to the operations of the Helium Co.. Inc. on the Model Dome near the town of Thatcher. This company's No. 1 Morris, SW cor. SE, Section 35-29-60, was completed at 987 feet with a reported flow of 1,000,000 feet of gas. Its No. 1 Pepper, C NW NW, Section 27-29-60, was abandoned at 1,470 feet upon encountering water, and its No. 1 Huff, SW SE NW, Section 35-29-60, is drilling at 610 feet. K. E. Cowdrey's No. 1 McDonald, SW NW SE, Section 1-30-60, was abandoned at 1,129 feet, the hole being full of water. Trinidad Development Co.'s No. 1 Flonz, SE cor. SW, Section 23-32-63, is spudding in shale at 75 feet.

In Bent County, Continental Oil Co.'s No. 1 Pipe Springs, NE cor. SE, Section 27-27-49, is drilling in shale below 4,600 feet with a hole full of water. This is reported to be the third water horizon in the last few hundred feet, the quantity of water in the horizons increasing with depth. The hole is bottomed probably in the lower Pennsylvanian.

In Fremont County one new operation is being started in J. B. Silengo's No. 1, C NE NW, Section 10-19-70, in the Canon City district. It is to be a shale test to 2,400 feet.

In Boulder County, C. C. Jain and others' No. 1 Mesa Dome, NW NW, Section 17-2n-70, topped the Muddy at 2,190 feet, the horizon showing 40 feet of water in the hole. The Dakota sand was topped at 2,415 feet and had a show of oil. The operation is shut down temporarily awaiting arrival of new cable.

Kelly Oil Co.'s No. 1 State, SE SW Section 36-14s-57, Lincoln County, which has attracted considerable attention due to its location in the plains region east of the mountain range and which has had interesting shows of oil and gas on several occasions, is still bottomed at 2,450 feet and is running a string of 4¾-inch casing. The hole has been caving for the last 40 days. Through the cavings it is showing considerable gas.

Yuma County

In Yuma County, near the Kansas line, Phillips Petroleum Co.'s No. 1 Andrews, NW NW, Section 3-2s-42, is drilling at 2,936 feet, and the Major Petroleum, Inc.'s No. 1 Winegar, SE NW Section 7-2s-43, is drilling at 1,475 feet in the Pierre shale and carrying the 12½-inch. Both of these tests have the Pennsylvania sands for their objectives.

In Larimer County, Continental Oil Co.'s No. 1 Fleming, SE NW Section 6-9n-68, Wellington Dome, a recent completion though not tested, at 4,225 feet, was opened the past week and hole pumped full of mud to kill the gas. It is intended to drill deeper. It came in as an oil well with heavy gas pressure and the gas appears to have overcome the oil. Same company's No. 4 Scott, NE SE Section 6-9n-68, is drilling at 1,005 feet.

In Rio Blanco County in the western part of the state, Texas Production Co.'s No. 1 Potter, NE SW Section 30-2n-96, White River structure, is drilling at 2,837 feet. It is below several sands in the Wasatch formation of Tertiary age which were big gas producers in other tests drilled in former years. No. 1 Potter is being drilled with a rotary in order to get through the gas horizons and test lower formations for oil. White Eagle Oil & Refining Co.'s No. 1-A Fordham, NW SW Section 9-2s-96, Piceance Creek, is bottomed at 2,270 feet and running the 10-inch to set. It is believed to be about on top of the first objective sand and a water shutoff is to be made before going any deeper.

In Jackson County, the Producers & Refiners Corp.'s No. 1 Hendershot, SE NE Section 2-6n-81, Pole Mountain area, is bottomed at 2,307 feet and underreaming the 10-inch at 2.235 feet. Midwest Refining Co.'s No. 21-X Rich, SW NW Section 9-6n-80, Buffalo Creek, is drilling at 1,520 feet in hard sand with hole full of water. Crude Oil Detector Co.'s No. 1 Hunter, SW cor. NW Section 31-11n-79, in the Cowdray district, is reported being abandoned without making any new hole since last fall when it was shut down at 4,717 feet.

Moffat County

In Moffat County, there are only two active operations on the Iles Dome, neither the Midwest or Texas companies having started any new wells since their last completions. The field has a developed production several times greater than present daily average pipe line runs of 1,700 bbls. which supply present requirements of the operators. Thomas McLaughlin and others' No. 1 Williams, NW SW Section 2-3n-92, which is testing a fault block south of the dome, is standing with the 6¼-inch cemented on top of the Morrison at 4.080 feet. McCormick Oil Co.'s No. 1-A Sales, SE SE Section 28-4n-92, is drilling at 2.910 feet. Texas Production Co.'s No. 1 Berlin, SW NE Section 19-12n-100, Bartram Dome, is drilling at 1,310 feet in shale.

In Routt County, Midwest Refining Co.'s No. 10 Barmettlor & Clayton, NE NW Section 4-7n-86, Chimney Creek Dome, set the 12½-inch at 906 feet after killing a flow of 2.000,000 feet of noninflammable gas in the Frontier, and is drilling at 960 feet. There are rumeros being circulated that this gas showed a helium content of 3 per cent, but this cannot be confirmed and while the gas may show some helium, it is very doubtful if the content has been determined. There are said to be only four laboratories in the country equipped to determine helium content and it is understood the gas was killed without samples being taken for such an analysis. Texas Production Co.'s No. 4 Belle Dennis, NE SE Section 7-6n-86, Tow Creek Dome, which was drilled to the granite at 5,310 feet and plugged back to 4,300 feet to test a show of saturation in the cores from that horizon (the Morrison) is standing. It is probable it will be abandoned. Same company's No. 2 State-Lubers, SW SE Section 7-6n-86, is spudding at 385 feet.

WYOMING

Wyoming reported several completions and near completions and several failures. Two of the completions were in Salt Creek, the best being Wyoming Associated Oil Co.'s No. 13-SD-2, NW, Section 35-40-79, in the third Sundance at a total depth of 2,850 feet, making 2,084 bbls. the first 24 hours. Midwest Oil Co.'s No. 24-SD-2, NW, Section 35-40-79, made 262 bbls. initial from the second Sundance at a total depth of 2,710 feet. California Petroleum Co.'s No. 3-D-2, Section 34-27-113, La Barge Field in Sublet County, will make around 100 bbls. from a total depth of 987 feet. Ohio Oil Co.'s No. 10 Alva Dickinson, Section 34-20-78, Rock River Field in Carbon County, is being completed in the Dakota at below 3,640 feet and looks as if it will make a 100-bbl. well. The failures include Midwest Refining Co.'s No. 1, SW SE SW, Section 35-22-115, on the Waterfall structure in Lincoln County. It is being abandoned at a total depth of 3,993 feet. There was water in almost all the horizons cut. The Aspen formation is at the surface. The California Co. (Standard Oil Co. of California) is abandoning its No. 1 Bushell, NE SW SE, Section 11-29-115, Snyder Basin structure in Sublet County. This well was started in 1927 and was reported to have had a showing for a small well in the Thaynes lime at 1,117 feet. Later it was drilled deeper and abandoned at a total depth of 2,503 feet. Its No. 2 Bushell, one-quarter of a mile to the east, has been standing at 2,067 feet since last fall. At that depth it was reported having a hole full of water.

All-American Oil Co.'s No. 1, SE NW, Section 1-36-82, on the North Casper Creek structure in Natrona County, which last week was reported showing for a producer of black oil in the Tensleep at 3,225 feet, is reported to have been drilled a little deeper and to have encountered water. It topped the Tensleep at 3,198 feet and the oil came in at 3,208 feet. It looked as if it would be a good well and made as high as 75 bbls. in an hour in the brief time it was on production. It may still be made into a fair producer. Prairie Oil & Gas Co.'s No. 1 Baird, NE SW, Section 22-31-81, Clark Dome, is bottomed at 2,433 feet and waiting for cement to set.

Big Horn County

In Big Horn County, the Producers & Refiners Corp.'s No. 3, SW NW NW, Section 24-56-98, Garland Dome, joint with the Kinney-Coastal Oil Co., is reported showing for a big gas well in the Embar, but it is not known what it will make as the hole is being drilled with a rotary bit in an effort to reach the lower horizons in which it is hoped oil will be encountered. It is drilling at 4,100 feet. Ohio Oil Co.'s No. 1 Easton, SW NE, Section 33-56-97, Byron Dome, cemented the 12½-inch at 2,590 feet and is waiting for it to set.

In Park County, the California Exploration Co.'s No. 2, NW NE, Section 14-48-102, Pitchfork structure, is bailing water for a test. The 12½-inch was cemented at 1,510 feet, total depth. Midwest Refining Co.'s No. 1 Rosenberg, NE cor., Section 26-58-98, Frannie Dome, is drilling at 1,370 feet in shale, and its No. 36 Rosenberg, SE cor. NW, Section 25 58-98, is bottomed at 2,887 feet in white lime and is straightreaming preliminary to running casing for a water shutoff.

In Hot Springs County, Westland Oils, Inc.'s No. 1, SW SE, Section 23-44-95, Gebo Dome, has commenced spudding. The location is half a mile southeast of a test drilled several years ago by the Utah Oil Refining Co. The Wall Creek series is expected at 1,300 feet and Dakota series at 1,800 to 2,200 feet. It may be drilled to the Embar at 3,800 feet. This also is known as the Gebo Oil Co. operation. Midwest Refining Co.'s No. 8, SE, Section 6-44-98, Wagonhound, filled back to 96 feet to straighten hole. Texas Production Co.'s No. 1 Skelton Dome, NW SW, Section 23-45-100, is drilling at 3,400 feet in shale. It is believed to be through the Muddy sand which carried water.

In Fremont County, the Kinney-Coastal Oil Co.'s No. 1 Dykeman, SE SW, Section 22-3n-1w, Pilot Butte, is shut down at 3,358 feet waiting tor casing which has been shipped from factory. The show in the sandy shale at 3,319-42 feet tested 35 bbls. of 42 gravity oil, and 1,000,000 feet of gas. The gas increased to 2,000,000 feet and overcame the oil. It is still about 100 feet above the Muddy sand. The test is to be carried to the Sundance. Wood & Akridge's No. 1, SE, Section 7-28-92, Crook's Gap district, commenced spudding August 1 in a 10-inch hole and will test the Wall Creek sands expected at around 1,400 feet.

Niobrara County

In Niobrara County, the Argo Oil Co.'s No. 7 Wehopeso, S half NW, Section 19-38-60, a test to the Sundance in the Mule Creek Field, is drilling at 265 feet. The horizons below the productive Lakota have not heretofore been drilled in this field. The Ohio Oil Co.'s No. 2 Converse Sheep, SE SW, Section 32-36-65, Lance Creek Field, a joint operation being deepened from the Muddy sand to test the Sundance and possibly the Tensleep, is coring in the Dakota at 3,115 feet.

In Johnson County, the Carter Oil Co.'s No. 2 State, SW SW, Section 16-48 82, Billy Creek Dome, which cemented off bottom water and heaving ground at 3,240 feet 60 days ago, was opened the past week and found to have 2,800 feet of oil in the hole. It was bailed down to 800 feet and refilled rapidly to the same level. It will be equipped for pumping for a test. The oil is coming from the Frontier formation down the flank of the dome. Last February this well gave evidence of opening a new light oil field on a structure which previously had yielded gas only. However, the oil was very heavy, only 20 degrees gravity, and dead. While cleaning out the formation commenced heaving and tools could not reach bottom. Also, some water was showing. After several cementing jobs the last one proved successful and the well was allowed to stand 60 days. Same company's No. 1 First National, SE, Section 17-48-82, the discovery well which came in with a flow of 58,000,000 feet of gas in 1923, was opened up recently, the gas mudded off and a core below the gas taken. It was reported to have shown some oil saturation and it is probable it will be deepened later. Matthew Foreman and others' No. 1, SE cor., Section 7-47-82, Crazy Woman Creek, has standard derrick up and Contractor L. A. Whipple is about ready to commence drilling. Location is half a mile southeast of a test drilled by the Fairway Oil Co. from which Foreman acquired the leases.

In Lincoln County, Reeves Aylmore and others' No. 1 Higgins, NE NW, Section 7-21-119, Sage Creek, is drilling at 700 feet, and Midwest Refining Co.'s No. 1, Section 25-37-117, Little Gray River structure, is bottomed at 1,480 feet with water flowing over the top.

In Sublet County, California Petroleum Co.'s No. 4-L, Section 34-27-113, La Barge Field, a new operation, is rigging up.

In Uinta County, California Co.'s No. 1 Union Pacific, Section 7-17-116, Muddy Creek Dome, is drilling at 3,644 feet in red and gray shale and hard lime shells, and Park City Oil & Gas Co.'s No. 1 Christensen, NE NE, Section 6-15-113, Lyman district, is running the 8¼-inch at 1,060 feet in Cretaceous shale, approximately 100 feet off of the objective.

The Mountain Fuel Supply Co.'s No. 1 Otto Arnold, NE, Section 24-19-104, Middle Baxter Basin Dome in Sweetwater County, just east of Rock Springs, had a flow of 15,000,000 feet of gas in what is believed to be the lower Sundance at 3,550 feet. Gas blew the tools out of the hole and after blowing for a while settled to around 8,000,000 feet. When deepening began the hole ran into water. Efforts are being made to plug off the water and complete as a gasser. It also had 3,000,000 feet of gas in the lower Morrison at 3,150 feet which will be saved.

ROCKY MOUNTAIN FIELDS
Daily Average Pipe Line Runs Week Ending August 10

WYOMING	
Salt Creek	32,600
Frannie	30
Big Muddy	2,300
Oregon Basin	5,890
Byron	....
Dutton	50
Elk Basin	760
Ferris	80
Grass Creek	2,300
Greybull	10
Hamilton	1,000
LaBarge	2,480
Lance Creek	220
Lost Soldier	3,970
Osage	470
Poison Spider	1,130
Rock River	2,400
Rex Lake	130
Lander	450
Simpson Ridge	60
Teapot Dome	40
Mule Creek	712
Total	56,952
MONTANA	
Cat Creek	1,445
Kevin-Sunburst	6,950
Pondera	3,080
Lake Basin	90
Total	11,565
COLORADO	
Moffat	1,206
Fort Collins	2,475
Florence	850
Iles	1,693
Tow Creek	439
Boulder	25
Rangely	100
Total	6,828
NEW MEXICO	
Artesia	875
Cap Rock (Maljamar)	455
Hogback	80
Rattlesnake	1,150
Table Mesa	....
Total	2,560
Grand Total	77,905

IDAHO

The California Co.'s No. 1 Sorensen, NW SW, Section 33-3n-41, Meadow

Creek strurture, Bonneville County, Idaho, is drilling at 3,310 feet in hard gray lime of the Thaynes group, lower Triassic. The Grand Teton Oil Co.'s No. 1 Blevins, SW, Section 33-5n-44, Horseshoe structure, Teton County, is drilling at 900 feet on top of the second Wall Creek, with shows of both oil and gas. Christian Vrang, head of the company's geological staff, and several company officials are at the well in anticipation of drilling into the sand.

Anderson & Severson of Couer d'Alene have unloaded machinery and equipment at Rathdrum, Idaho. From there it will be taken to the Lentz property, a short distance north of Ramsey, where 1,200 acres have been blocked for drilling. Derrick will be constructed at once and T. B. Webb, Texas driller, will be in charge of operations. The company expects to make a 3,000-foot test.

At the annual stockholders meeting of the Grand Teton Oil Co. at Idaho Falls, the following directorate was elected: George W. Edgington, Idaho Falls; Dr. H. Ray Hatch, Idaho Falls; Dr. F. H. Thompson, Salem, Ore.; Neal Smith, Portland, Ore.; Ralph Stone, Portland, Ore.; Fred Thiel, Astoria, Ore.; and P. H. Gallagher, Astoria, Ore. Judge Edgington was elected president; Doctor Thompson, vice president: Mr. Smith, secretary, and Mr. Stone, treasurer.

WEST TEXAS FIELDS

(Continued from Page 71)

ably should not be cast in shadow because The Texas Company and Independent Oil & Gas Co.'s No. 1 Campbell to the east has a hole full of sulphur water. No one knows just what this sand producing area will amount to, but as the sand is found at a shallow depth the wells do not cost much to sink, consequently the area will no doubt be well tested before finish is written to the Pecos Valley Pool story.

Production took a 6,702-bbl. slump in the Permian Basin this week, from 397,480 bbls. down to 390.778 bbls. Tank car shipments dropped off over 3,600 bbls., while refinery runs dropped from 50,918 bbls. of the previous week to 44.791 bbls. this week, over a 6,000-bbl. slump. Pipe line runs picked up from 346,814 bbls. of the previous week to 357,403 bbls. this week, better than 10,500 bbls. more per day than the previous week. Daily average from storage ran around 38,000 bbls.

New potential for the Hendricks Pool, Winkler County, showed a drop of 104,535 bbls., for the period from August 15 to 31, or a potential of 474,068 bbls.

WEST TEXAS COMPLETIONS

Week ending August 17

Borden County

Louisiana Oil & Refining Co.'s No. 1 York location was abandoned in Section 322, Block 97. H&T.C.R.R. Survey.

Crockett County

W. A. Moncrief and others' No. 1 Andrews, Section 57, Block UV, had an oil show at 1,481 feet and dry and abandoned at 1,690 feet.

Glasscock County

A. & F. Oil Co.'s No. 1 Turner was dry and abandoned at 2,597 feet.

Crane County

Gulf Production Co.'s No. 66 McElroy, Section 200, Block F, C.C.S.D.&R.G.N.G. R.R. Survey, had an initial production of 355 bbls. at 2,837-2,974 feet. Warner-Quinlan Co.'s No. 5 Weekly had an initial production of 250 bbls. at 2,915-3,003 feet.

Mitchell County

J. E. Alexander and others' No. 1 Ellwood estate was dry and abandoned at 600 feet. California Co.'s No. 7 Foster had an initial production of 90 bbls. at 2,705-3,825 feet. Their No. 1 J. J. Handley was dry and abandoned at 3,284 feet. Westhyde Investment Co.'s No. 1 Ellwood was dry and abandoned at 3,216 feet.

Jones County

Phillips Petroleum Corp.'s No. 2 Lan, located 990 feet from north and west line, Section 15, Block 19, T.P.R.R. Survey, was dry and abandoned at 3,007 feet. McGinley Corp.'s No. 1 Whittmore, located Section 39, Block 1, B.B.B.&C.R.R. Survey was dry and abandoned at 2,801 feet.

Nolan County

L. G. Bradstreet's No. 1 Kuteman, located C NW, Section 95, Block X, T.P. R.R. Survey, was dry and abandoned at 4,024 feet.

Howard County

Otis Chalk's No. 6 fee topped the pay at 1,717 feet, was drilled to a total depth of 1,747 feet, shot with 80 quarts at 1,717-47 feet and had an initial production of 80 bbls. Cranfill & Reynolds' No. 2 Kloh-Rumsey, located Section 3, Block 32, Township 2s, topped the pay at 1,420 feet, was drilled to a total depth of 1,437 feet, and had an initial production of 126 bbls. in 18 hours. Laurel & Cosden's No. 13 D. Roberts, located in Section 136, Block 29, W.&N.W.R.R. Survey, had an initial production of 75 bbls. at 1,293-1,394 feet.

Loving County

Lockhart & Co.'s No. 2 Bowen-Wells, 990 feet from northwest and 330 feet southwest of Section 92, Block 1, topped black lime at 4,198 feet, was drilled to a total depth of 4,233 feet, topped the pay at 4,198 feet, shot with 150 quarts at 4,194-4,232 feet and had an initial production of 604 bbls. first 15 hours and swabbed 654 bbls. the next 24 hours.

Pecos County

Independent Oil & Gas Co.'s No. 1 Iowa Realty Co. was dry and abandoned at 1,971 feet. Mid-Kansas and Transcontinental Oil Co.'s No. 2-E Yates topped the pay at 1,240 feet, was drilled to a total depth of 1,245 feet and had an initial production of 712 bbls. per hour. Shell Petroleum Corp.'s No. 4-D Smith made 426 bbls. at 1,725-1,837 feet. California Co.'s No 13 Smith, Lease 3, Section 35, made 155 bbls. hourly at 1,420-1,605 feet.

Upton County

Pure Oil Co.'s No. 1 E. S. Hughes topped the pay at 2,140 feet, was drilled to a total depth of 2,264 feet and had an initial production of 215 bbls. per day.

Ward County

Gulf Production Co.'s No. 1 Wristen, located Section 18, Block 5, topped salt at 720 feet, was drilled to a total depth of 2,480 feet, shot with 230 quarts at 2,415-70 feet and had an initial production of 155 bbls. Shipley and others' No. 2 Hayzlett, located Section 17, Block 5, was drilled to a total depth of 2,490 feet, topped the pay at 2,428 feet, shot with 140 quarts at 2,430-68 feet and made 100 bbls. daily after shot.

Winkler County

Southern Crude Oil Purchasing Co.'s No. 1 Hendricks T-89-L, located Section 15, Block B-12, made 550 bbls. at 2,760-2,949 feet. Their No. 2 Hendricks T-88-CX made 580 bbls. at 2,645-3,000 feet.

ESTIMATED PRODUCTION WEST TEXAS

Week ending August 17

Company—	Wells	Prod.
Crane County	310	39,044
Crockett County	43	1,398
Ector County	3	....
Fisher County	7	1,120
Glasscock and Howard	359	39,884
Jones County	33	3,275
Loving County	13	1,213
Mitchell County	142	2,662
Pecos County	317	138,393
Reagan County	243	17,660
Runnels County	3	25
Scurry County	5	30
Upton County	238	9,122
Ward County	7	1,775
Winkler County	614	135,177
Total this week	2,387	390,778
Total last week	2,378	397,480
Difference	9	6,702

DAILY AVERAGE PIPE LINE RUNS

July 31 to August 8

Runs Through Trunk Lines

	Last period (bbls.)
Atlantic P. L. Co., Port Arthur, Tex.	38,000
Gulf P. L. Co., to coast via Ranger, Tex.	31,592
Humble P. L. Co., Comyn, Tex.	50,309
Humble P. L. Co., Ingleside, Tex.	49,374
Illinois P. L. Co., via Del Rio, Tex.	50,000
Magnolia P. L. Co., to Deleon, Tex.	28,610
Pasotex P. L. Co., El Paso, Tex.	8,125
Shell Pipe Line Co., Healdton, Okla.	42,316
Shell P. L. Co., Houston, Tex.	8,388
The Texas Company, Houston, Tex.	50,689
Total	357,403

Tank Car Shipments

Reagan County Co., Kemper, Tex.	1,212
Thomas & Brann, Grant City	101
Orient, McCamey, Tex.	120
The Texas Company, Crossett, Tex.	off
T. P. Coal & Oil Co., McCamey, Tex.	off
American Pet. Co., Pyote, Tex.	4,628
Skelly Oil Co., Pecos, Tex.	off
Southern Crude O. P. Co., Wickett, Tex.	14,192
Total	20,253

Runs to West Texas Refineries

Amarillo Prod. Co., Pyote, Tex.	off
Bluebonnett Ref. Co., Wickett, Tex.	2,270
Burford Ref. Co., Pecos, Tex.	4,866
Col-Tex Ref. Co., Colorado, Tex.	7,000
Cosden Ref. Co., Big Spring, Tex.	6,946
Great Western Ref. Co., Big Spring, Tex.	3,626
Humble Oil & Ref. Co., McCamey, Tex.	9,713
Midland Ref. Co., Midland, Tex.	682
Tonkawa Ref. Co., Pyote, Tex.	off
Valley Ref. Co., Pyote, Tex.	2,000
Big Spring Ref. Co., Big Spring, Tex.	2,415
Richardson Ref. Co., Big Spring, Tex.	5,273
Total	44,791

Summary

	Previous week	Last period
Pipe line runs through trunk lines	346,814	357,403
Tank car shipments	23,918	20,253
Runs to West Texas refineries	50,918	44,791
Total daily distribution	421,650	422,447
Total daily production	390,202	384,315
Daily average from storage	31,448	38,132

DAILY AVERAGE PRODUCTION BY LEASES

PECOS COUNTY

Week ending August 13

Company, lease—	Wells	Prod.
M. H. Black:		
Fee	1	off
California Co.:		
Yates—Lease 1	18	10,245
Smith—Lease 1, Sec. 37	3	352
Smith—Lease 1, Sec. 23	7	2,214
Smith—Lease 1, Sec. 21	3	1,095
Smith—Lease 2	2	44
Smith—Lease 3	12	2,550
Smith	1	off
Tippett—Lease 1	1	34
Cosby Drilling Co.:		
Smith	1	235
Dorn & McGee:		
	1	20
Grayburg Oil Co.:		
Pecos River Bed	6	off
Salvage	..	417
Gulf Prod. Co.:		
All leases	37	17,358
Humble Oil & Ref. Co.:		
Smith-A	10	2,069
Smith-B	7	1,250
Kirby Pet. Co.:		
Tippett	2	60
Kirby Pet. and Edson:		
Tippett	1	240
Marland Oil Co.:		
Yates-A	6	854
Yates-A salvage	..	6,375
Mazda & Savoy:		
Smith	3	760
McCarty Oil Co.:		
Gray	1	off
Bennett	1	off
McMan Oil & Gas Co.:		
Smith-A	1	1,887
Smith-B	4	1,524
Smith-C	7	785
Tippett	2	253
Richardson	1	57
McMan and Marland:		
Yates	16	6,051
Mid-Kansas and Transcon.:		
Yates-A	27	19,042
Yates-B	27	8,576
Yates-C	11	9,191
Yates-D	7	9,509
Yates-E	1	253
Yates-F	4	957
Yates-G	3	1,355
Yates-H	9	8,138
Smith	4	1,939
Smith	18	4,812
J. D. O'Mara:		
Bates	1	28
Pecos Valley Oil Co.:		
Fee, Sec. 22, Blk. 26	2	60
Phillips Pet. Corp.:		
Monroe	1	70
Ramsey	2	620
Smith	2	660
Plymouth Oil Co.:		
Perry	1	26
Red Bank:		
Smith	5	504
Shell Pet. Corp.:		
Tippett	11	3,085
Smith	11	1,412
Smith-B	1	649
Smith-D	4	1,084
Smith-E	1	19
Simms Oil Co.:		
Smith	7	7,764
Skelly Oil Co.:		
Tippett	1	90
Taylor-Link:		
University	1	112
Total Yates Field	317	136,684

WINKLER COUNTY

Week Ending August 13

Company, farm, section, block—	Wells	Prod.
Amerada Pet. Corp.:		
Cowden, 3, B-12	3	115
Atlantic O. P. Co.:		
Hendricks-A, 34, B-5	8	2,052
Hendricks-B, 44, 26	5	810
Hendricks-D, 29, B-5	8	1,168
Hendricks-E, 41, B-5	6	1,456
Hendricks-G, 46, 26	7	63
Hendricks-H, 30, B-5	1	Off
Atlantic & Collett:		
Hendricks-F, 40, 26	13	1,539
Bankers Prod. Co.:		
Hendricks, 30, B-5	1	17
V. T. Bowlin:		
Brown-Altman, 4, B-5	1	8
California Co.:		
Hendricks, 29, B-5	7	923
Cranfill & Reynolds:		
Hendricks, 28, B-5	2	382
Hendricks-B, 35, B-5	1	109
Hendricks-C, 33, 26	2	172
Hendricks-E, 33, 26	2	296
Cranfill & Texon:		
Hutchings, 47, 26	1	67
Culberson Bros.:		
Hendricks, 40, B-5	1	43
Eastland Oil Co.:		
Hendricks, 35, B-5	2	354
Hendricks-B, 46, 26	1	169
Gulf Prod. Co.:		
Hendricks-A, 34, B-5	13	4,378
Hendricks-B, 45, 26	11	3,885
Hendricks-C, 40, B-5	6	565
Hendricks, 44, 26	3	1,259
Cowden, 3, B-12	3	798
Humble Oil & Ref. Co.:		
Hendricks-A, 34, B-5	17	5,597
Hendricks-B, 29, B-5	6	1,119
Hendricks-C, 32, 26	8	703
Hendricks-D, 39, 26	7	270
Hendricks-C, 10, B-12	11	6,265
Walton, 48, 26	1	127
Independent Oil & Gas:		
Hendricks-A, 34, B-5	7	1,334
Howe-B, 44, 26	3	206
McCabe, 36, B-5	2	231
Hendricks, 42, B-5	1	8
Vardeman-B, 41, B-5	7	305
Magnolia Pet. Co.:		
Hendricks, 29, B-5	8	465
Marland Oil Co.:		
Hendricks, 33, 26	4	666
Hendricks, 29, 26	2	64
Hendricks, 34, 26	2	178
May Prod. Co.:		
Hendricks, 34, 26	1	15
American Maracaibo:		
Hendricks-A, 28, B-5	1	29
Hendricks-B, 28, B-5	1	16
Mining & Engineering:		
Hendricks, 10, B-12	1	Off
Murchison & Cranfill:		
Hendricks-A, 35, B-5	3	709
Hendricks-B, 35, B-5	3	632
Hendricks-C, 35, B-5	1	13
Hendricks-E, 35, B-5	1	976
Hendricks-I, 34, 26	2	334
Prairie Oil & Gas Co.:		
Hendricks, 40, 26	6	1,494
Cowden, 3, B-12	6	3,959
Pure Oil (Lion):		
Hendricks-A, 41, B-5	11	1,602
Hendricks-B, 34, B-5	13	3,742
Hendricks-C, 45, 26	14	5,514
Hendricks-D, 44, 26	1	118
Republic Prod. Co.:		
Hendricks-A, 45, 26	12	2,595
Hendricks-B, 41, B-5	5	160
Shell Pet. Co.:		
Hendricks-A, 45, 26	6	1,060
Hendricks-B, 29, B-5	6	1,574
Hendricks-C, 29, B-5	8	638
Hendricks-B, 41, B-5	6	61
Hendricks-E, 40, B-5	3	788
Hendricks-F, 46, 26	8	370
Hendricks-G, 39, 26	1	68
Shell-Texas Co.:		
Cosden-A, 3, B-12	6	1,904
Hendricks, 45, 26	6	2,691
Hendricks-A, 29, B-5	11	2,666
Hendricks-B, 40, 26	6	599
Hendricks-C, 40, 26	6	1,765
Hendricks-D, 40, 26	6	425
Hendricks-E, 39, 26	4	232
Skelly Oil Co.:		
Hendricks, 40, 26	12	5,735
Hendricks-B, 10, B-12	2	18
Hendricks-C, 39, 26	1	164
Southern Crude:		
T-67 Hendricks-A, 42, B-5	3	139
T-67 Hendricks-3-A, 4, B-12	3	526
T-67 Hendricks-B, 44, 26	5	500
T-67 Hendricks-3-B, 33, 26	4	403
T-67 Hendricks-C, 33, B-5	5	550
T-67 Hendricks-2-D, 28, 26	5	1,225
T-67 Hendricks-E, 42, B-5	4	134
T-67 Hendricks-F, 33, B-5	5	673
T-68 Hendricks-3-A, 35, B-5	3	103
T-68 Hendricks-B, 46, 26	2	196
T-88 Hendricks-A, 44, 26	6	960
T-88 Hendricks-B, 4, B-12	4	921
T-88 Hendricks-C, 28, B-5	8	1,256
T-88 Hendricks-D, 4, B-12	6	3,538
T-88 Hendricks-H, 28, B-5	7	1,310
T-88 Hendricks-I, 30, B-5	7	657
T-88 Hendricks-J, 30, B-5	5	534
T-88 Hendricks-K, 41, 26	7	1,129
T-88 Hendricks-L, 4, B-12	4	993
T-88 Hendricks-M, 33, 26	33	16,772
T-88 Hendricks-N, 28, 26	7	1,229
T-88 Hendricks-O, 28, 26	4	808
T-88 Hendricks-P, 28, 26	2	290
T-88 Hendricks-Q, 27, 26	2	905
T-88 Hendricks-R, 27, 26	3	903
T-88 Hendricks-S, 34, 26	4	1,276
T-88 Hendricks-T, 34, 26	7	1,054
T-88 Hendricks-U, 41, 26	10	1,655
T-88 Hendricks-V, 29, 26	1	32
T-88 Hendricks-W, 5, B-12	1	310
T-88 Hendricks-CX, 21, 26	3	1,546
T-89 Hendricks-A, 35, B-5	3	240
T-89 Hendricks-B, 35, B-5	2	285
T-89 Hendricks-C, 35, B-5	3	705
T-89 Hendricks-D, 35, B-5	1	139
T-89 Hendricks-E, 40, B-5	3	165
T-89 Hendricks-F, 40, B-5	2	196
T-89 Hendricks-H, 46, 26	2	219
T-89 Hendricks-I, 10, B-12	2	Off
T-89 Hendricks-J, 9, B-12	8	2,690
T-89 Hendricks-L, 15, B-12	1	549
T-90 Hutchings, 47, 26	1	232
Texon Oil & Land Co.:		
Hendricks-A, 41, B-5	6	596
Hendricks-B, 45, 26	6	1,518

(Continued on next page)

Company, farm, section, block—	Wells	Prod.
Winkler O. P. Co.:		
Hendricks, 33, 26	1	Off
Total Hendricks Pool	585	130,890
Leck Area		
Atlantic, Kesslar & Logan:		
Leck, 3, 74	2	437
Amerada Pet. Corp.:		
Leck, 3, 74	2	455
Empire Gas & Fuel Co.:		
Daugherty, 3, 74	3	205
Magnolia Pet. Co.:		
Scarborough, 1, C-22	2	249
Gulf Prod. Co.:		
Scarborough, 1, C-22	1	75
Daugherty, 3, 74	1	1,478
Shell-Llano Oil Co.:		
Daugherty, 1, C-22	4	244
Shell-Danciger:		
Daugherty, 3, 74	2	136
Skelly Oil Co.:		
Daugherty, 22, 16	2	562
Tidal Oil Co.:		
Scarborough, 1, C-22	1	170
Prairie Oil & Gas Co.:		
Leck, 16, 74	1	320
Daugherty, 3, 74	1	148
Scarborough, 1, C-22	1	67
Warner & Quinlan:		
Leck, 3, 74	1	357
Total Leck Pool	24	4,903
O'Brien Pool		
Marland Oil Co.:		
Morton, 10, B-12	2	68
Wentz Oil Corp.:		
Morton, 10, B-12	1	215
Simms Oil Co.:		
Sealy, 50, F	1	20
Richardson et al:		
Stockton, 50, F	1	105
Total O'Brien Pool	5	408
Total Winkler County	614	136,201

FRENCH OIL INTERESTS IN MOROCCO TO EXPAND

WASHINGTON, D. C., Aug. 19.—A new oil company, whose purpose will be the development of French petroleum interests in Morocco, has been formed in Rabat, Morocco, the Commercial Attache in Paris, Daniel J. Reagan, advises the Department of Commerce. The total capital amounts to 6,000,000 marks (about $240,000), and work is to begin immediately. The department's statement follows:

"The new company, organized under the supervision of the Bureau des Recherches et de Participations Minieres and the Societe Financiere Franco-Belge de Colonization, received the total assets (material and licenses) of the Societe des Recherches et de Forages, which is liquidated after having functioned in Morocco and Tunisia as well as the assets of the subsidiary of this company, the Societe Cherifienne des Recherches.

"Prospecting in Morocco will be carried out simultaneously by three companies: the mixed company, the Cherifienne des Petroles, an exclusively Cherifian enterprise which will carry out the exploitation of the licenses purchased from the Societe des Mines de Beni-Aicha and from the Syndicat des Petroles du Maroc (in which Pechelbronn, Compagnie Marocaine, Tlouanet, participate); and an organization depending exclusively upon the Ministry of Finance and aiming at the exploitation of 38 licenses (authorizations) owned by the company.

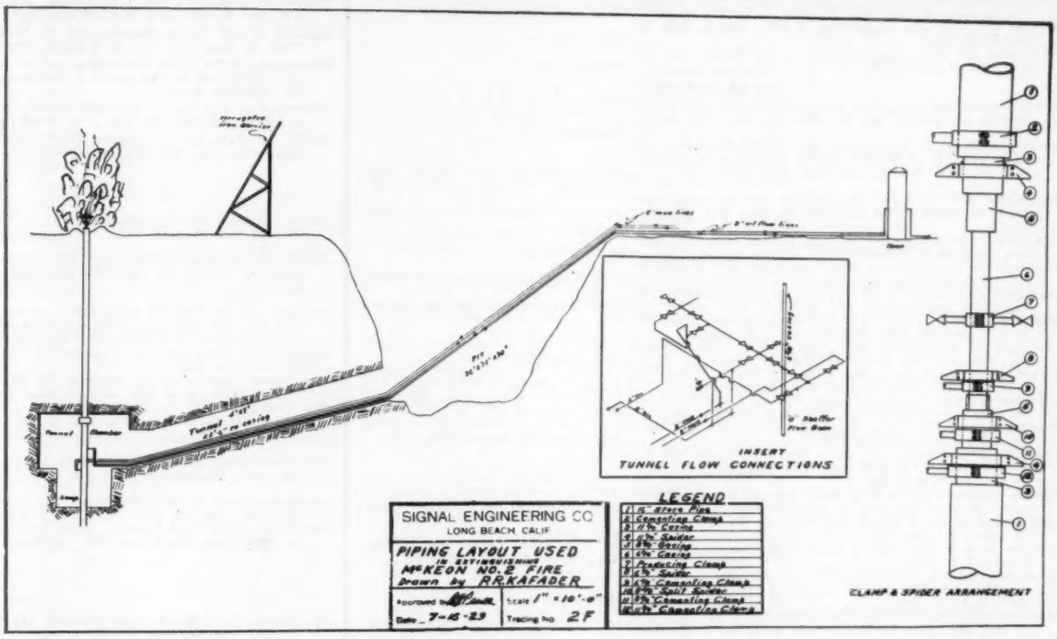
"It is expected that the two last organizations will adhere to the first, La Cherifienne des Petroles. Preliminary prospecting reports have shown that concentrated petroleum reserves are to be found at the depths of 1,800 to 2,400 feet.

"The question of the refining will be taken up very soon, as conditions for the establishment of this industry in Morocco are said to be favorable."

MEXICAN OUTLOOK NOT GOOD

MEXICO CITY, Aug. 19.—A total of 63 oil wells with daily initial yield of 38,538 bbls., were completed in Mexico during current year to July 30, according to report of the Ministry of Industry, Commerce and Labor. Eight completions with daily initial of 9,057 were reported from June 11 to July 1. January completions amounted to 8 and 15 wells were brought in during February, 4 in March, 13 in April, 10 in May and 13 in June. The report states that "increased production in the United States makes the oil situation in Mexico, as regards the future, unfavorable."

ELABORATE TUNNELING OPERATION FIRST STEP IN EXTINGUISHING WELL FIRE



The above diagram shows measures adopted in extinguishing the fire which burned for 26 days at the McKeon Drilling Co.'s No. 2 York & Lockhart well in the Santa Fe Springs area in California before it was brought under control. Under the direction of R. H. Pence, manager of the Signal Engineering Co., a corrugated iron shield was thrown up around the flaming well. Three days later a tunnel had been completed and a working chamber constructed around the casing of the well.

The tunnel, 55 feet 6 inches long, started from a pit dug west of the well and terminated in the working chamber. The pit, 36 by 36 by 30 feet, was protected by timbers. The top of the working chamber was 25 feet below the surface and the bottom of the cellar was 43 feet below the surface. This left a maximum head room of 18 feet within the tunnel chamber, which was 15 feet square.

The operation of extinguishing the fire after completion of this subsurface work is told in detail in an article, "Novel Methods Used in Fighting Fires" in The Oil and Gas Journal of August 1, 1929.

FOR PRESERVATION OF HISTORIC OIL SPRING

CUBA, N. Y., Aug. 17.—A resolution requesting the state park commission to take over the property of the Seneca Oil Spring Association, on which is located the spot where petroleum was first discovered in America, was passed at the annual meeting of the Seneca association here.

The resolution asks the commission to maintain and preserve the five-acre tract as part of Cuba lake park. Plans were made to erect a concrete bridge over the stream which cuts through the road leading to the spring and to erect a permanent guide post at Bristol's Corners indicating the location of the spring.

Plans were made to publish a historical booklet containing the history of the spring as well as the ceremonies incident to its dedication, two years ago. J. P. Herrick of Olean, L. H. Thornton of Wellsville and E. E. Conrath of Cuba were named as a committee to take charge of the matter.

Mr. Herrick and N. V. V. Franchot of Olean, Harry Bradley and L. H. Thornton of Wellsville and R. H. Bartlett of Cuba and Tulsa, Okla., were elected directors. Officers elected are: R. H. Bartlett, president; L. H. Thornton, vice-president; N. V. V. Franchot, treasurer, and H. E. Keller of Cuba, secretary.

Among the guests at the meeting were DeHart H. Ames of Franklinville, secretary of the Allegheny State Park commission, and Don McLennan of Syracuse.

OIL LEASING IN CALIFORNIA

LOS ANGELES, Calif., Aug. 19.—Calvin Pearson, who has been leasing extensively near Kerman, in Fresno County, is reported negotiating with Rio Grande Oil Co. to take over a big block of this acreage. Pearson has 137 leases and is negotiating for 250 additional. He also is leasing in Madera County. One of the biggest leasing programs in the history of the state is under way, in areas chiefly along the coast, with Monterey, Ventura, Santa Barbara and San Luis Obispo Counties the chief objectives. Thousands of acres are being tied up in big blocks by the major companies. The Texas Corporation and Ohio Oil are reported to have acquired big leases near Lompoc, the former being credited with 30,000 acres near True No. 1 well, being drilled by Keystone Petroleum at Surf. Ohio Oil has secured 6,500 acres of the Salsipuedos ranch, owned by the Hollisters, and located inland between Western Gulf's Hollister No. 1 and the True well. Large cash rentals accompany these leases.

GERMANS BUY RUSSIAN OIL

WASHINGTON, D. C., Aug. 17.—The Soviet Government of Russia has built up systematically an oil trade of consequence in Germany since 1923, according to a report to the Department of Commerce from Trade Commissioner William T. Daugherty at Berlin. The trade involved 344,000 metric tons of exports to Germany in the fiscal year 1927-28, Daugherty stated, while Russian shipments to date control about 20 per cent of Germany's current imports of petroleum and its products, as compared with the United States' share of between 55 and 60 per cent. In 1925 the Russian syndicate set up its own distributing organization in Germany.

RESEARCH ENGINEER RESIGNS

W. H. Laury has resigned as research engineer for the Axelson Machine Co. of Los Angeles, Calif. Mr. Laury is a member of the Standardization Committee on Production of the American Petroleum Institute. He is a member of the A.S.S.T., the A.S.T.M. and the Engineers Club of Los Angeles.

WILDCAT OPERATIONS IN TEXAS PANHANDLE

(Continued from Page 72)

Skelly Oil Co.'s No. 18 Schafer, 990 ft. S and 355 ft. W. NE. Sec. 68, Blk. 4, I.&G.N. Sur. ..... Set 10-in. csg. 1,020 ft.
Skelly Oil Co.'s No. 19 Schafer, 330 ft. N. 990 ft. E. SW cor. NE, Sec. 198, Blk. 3, I.&G.N. Sur. ..... Location.
Skelly Oil Co.'s No. 20 Schafer, 330 ft. N. 990 ft. W. SE cor. N½, Sec. 198, Blk. 3, I.&G.N. Sur. ..... Location.
Skelly Oil Co.'s No. 21 Schafer, 340 ft. N. 1,540 ft. W. SE cor. SE, Sec. 68, Blk. 4, I.&G.N.R.R. Sur. ..... Location.
Stubblefield's et als' No. 1 Garner, 330 ft. from S and E lines SE. Sec. 104, Blk. 4 ..... Drlg. 1,700 ft.
Timmis et als' No. 2 Garner, 330 ft. from N line and 330 ft. from E line SW SW, Sec. 113, Blk. 4, I.&G.N. ... T.D. 3,132 ft; T.P. 2,099 ft; I.P. 50 bbls.; will shoot.

CASTRO COUNTY

Colorado O. & R. Co.'s No. 1 M. Siemmons, SW cor. Sec. 73, Blk. M-17, B.S.&F. Sur. ..... Rig blown down.
Mystery Oil Co.'s No. 1 J. I. Crum, SE cor. NE, Sec. 333, Blk. M-6, S.K.&K. Sur. ..... S.D. 510 ft. for csg

CHILDRESS COUNTY

C. L. Sloane et als' No. 1 B. P. Smith, Sur. 49, F. P. Knott lands ..... S.D. 4,486 ft.

COCHRAN COUNTY

Continental Oil Co.'s No. 1 Slaughter-A, 330 ft. from W and 430 ft. from S lines, League 130, Carson County School land ..... Drlg. 4,580 ft.

COTTLE COUNTY

Explin. Co.'s No. 1 Richards ..... 1,000,000 ft. gas 3,720-30 ft; S.D. 4,000 ft.
Explin. Co.'s No. 3 Matador Land & Cattle Co., C, Sec. 46, J. H. Stephens Sur. ..... C.O. 3,510 ft.

Sun Oil Co.'s No. 1 T. B. Yarborough, 485 ft. S and 2,460 ft. E NW cor. Sec. 551, Blk. H W&N.W Sur. ..Drlg. 4,450 ft.

DONLEY COUNTY

Blue Bonnett Oil Co.'s No. 1 Ball, 1,075 ft. from N line, 985 ft. from E line, Sec. 22, Blk. E, D.&P.R.R. Sur. ..S.D. 1,912 ft.

Marine Oil Co.'s No. 1 Sawyer, C SW, Sec. 5, Blk G, G.C.&S.F. Sur. .....S.D. 3,510 ft.

Southland Oil Co.'s No. 1 Lewis, C SE 40 ac., Sec. 3, Blk. 29, H.&G.N.R.R. Sur. .....Rigging up.

GRAY COUNTY

British-American Oil Co.'s No. 2 Purviance, 330 ft. N and E SW cor. E 160 ac., Sec. 61, Blk. B-2, H.&G. N.R.R. Sur. .....Location.

Champlin Ref. and Danciger's No. 2 Cook-Faulkner, 660 ft. N and 330 ft. E, SW cor. W 120 ac. of E 200 ac., Sec. 30, Blk. B-2, H.&G.N.R.R. Sur. .....T.D. 2,775 ft; set 8¼-in. csg., testing.

Champlin Ref. Co.'s No. 2 Jackson, 330 ft. each way from SE cor., W 100 ac., Sec. 60, Blk. B-2, H.&G.N...Sprayed 5 bbls. T.P. 2,920 ft; drlg. 3,488 f..

Crabtree Drlg. Co.'s No. 1 B. F. Talley, SW NE, Sec. 114, Blk. M-2, B.S.&F. Sur. .....S.D. 2,740 ft.

Constantine et als' No. 1 Dial, 330 ft. S and E of NW cor. W½ NW, Sec. 32, Blk. 25, H.&G.N. Sur. .....S.D. 2,965 ft; encountered S.W

Danciger O. & R. Co.'s No. 2 Beck, 330 ft. N and E SW cor. NW, Sec. 28, Blk. B-2, H.&G.N. Sur. .....T.D. 2,746 ft; set 8¼-in. csg.

Danciger O. & R. Co.'s No. 3 Beck, 330 ft. S and 990 ft. E NW, Sec. 28, Blk. B-2, H.&G.N.R.R. Sur. .....Fishing 2,667 ft.

Danciger O. & R. Co.'s No. 4 Beck, 330 ft. S and W, NE cor., Sec. 28, Blk. B-2, H.&G.N. Sur. .....T.D. 1,000 ft.

Danciger O. & R. Co.'s No. 5 Beck, 330 ft. S and E, NW cor. SW, Sec. 28, Blk. B-2, H.&G.N. Sur. .....Drlg. 1,400 ft.

Danciger et als' No. 11 Jackson, 830 ft. S and 1,320 ft. W, NE cor. NW, Sec. 88, Blk. B-2, H.&G.N. Sur. ....Drlg. 2,763 ft.

Danciger O. & R. Co.'s No. 1 Williams, 330 ft. from N, 330 ft. from E, S½ NW .....S.D. 2,595 ft; run. 8¼-in. csg.

Delaney & Associates Oil Co.'s No. 8 Jackson, 990 ft. S and 330 ft. E NW cor. E½ SW, Sec. 88, Blk. B-2. H.&G.N.R.R. Sur. .....Drlg. 2,320 ft.

Dye & Gillette's No. 2 J. L. Noel, 330 ft. N and E, SW cor. NE, Sec. 187, Blk. 3, I.&G.N. Sur. .....Drlg. 1,050 ft.

Bob Dunlap's No. 2 Morse, 990 f.. from N. 330 ft. from W, Sec. 2, Blk. 26 .....S.D. 2,501 ft.

Empire G. & F. Co.'s No. 1 Noel, C SE, Sec. 151, Blk. 3, I.&G.N.R.R. Sur. .....S.D. 3,119 ft; S.O. 3,045-50 ft.

Sines Q Reiger's, formerly Eslick et als' No. 1 Mrs. J. A. Hopkins, NW cor. W 80 ac. of SW, Sec. 84, Blk. B-2, H.&T.C. Sur. .....S.D. 3,206 ft.

Gardner Bros. and Collins' No. 2 Saunders, 955 ft. from S and 330 ft. from E of W 68 ac. E½, J. G. Eustice Sur. .....Location.

Gulf Prod. Co.'s No. 2 Saunders, 990 ft. N and E, SW cor. Sec. 3, Blk. 1. A.C.H.&B.R.R. Sur. .....Drlg. 2,451 ft.

Gulf Prod. Co.'s No. 2 Worley-A, 330 ft. N, 990 ft. W, SE SW, Sec. 36, Blk. 3, I.&G.N. Sur. .....Location.

Gulf Prod. Co.'s No. 3 Worley-A, 330 ft. N, 1,650 ft. W, SE SW, Sec. 36, Blk. 3, I.&G.N.R.R. Sur. .....Location.

Guernsey Oil Co.'s No. 1 Pope, 330 ft. from N and W lines, W½ SW, Sec. 173, Blk. 3, I.&G.N. Sur. .....Spudding.

Herragan Oil Co.'s No. 1 Bradford, 330 ft. from N and 990 ft. from E, Sec. 123, Blk. B-2 .....S.D. 400 ft.

Humble O. & R. Co.'s No. 3 Jackson, 230 ft. from E line, 330 ft. from N line of E 110.5 ac., Sec. 90, Blk. B-2, H.&G.N.R.R. Sur. .....Location.

Humble O. & R. Co.'s No. 1 Palmer, 330 ft. from N and E lines, of W 100 ac., Sec. 31, Blk. B-2, H.&G. N. Sur. .....Spudding.

Independent O. & G. Co.'s No. 1 Hollenbeck, 990 ft. each way from NE cor. NE, Sec. 176, Blk. 3, I.& G.N.R.R. Sur. .....5,000,000 ft. gas from 2,428-83 ft., drlg. 3,260 ft.

Lyon et als' No. 1 Morse, 330 ft. N and E SW cor. N½ NE, Sec. 2, Blk. 26, H.&G.N.R.R. Sur. .....Drlg. 2,544 ft; S.O. 2,544 ft.

Magnolia Pet. Co.'s No. 1 Wright, 330 ft. S and W lines S½ SW, Sec. 13, Blk. 3, I.&G.N. Sur. .....Drlg. 2,435 ft.

McLain Oil Co.'s No. 1 Back, 1,000 ft. from W line and 330 ft from N line, NW, Sec. 24, Blk. 25, H.&G.N. Sur. .....1,000,000 ft. gas 2,105-10 ft. and estimated 3,000,000 ft. gas 2,202-08 ft; show oil 2,565-90 ft. and 2,714 ft; shot 100 qts. 2,565-2,839 ft; spraying 6 bbls. oil per day; S.D. 2,846 ft; C.O.

McMan O. & G. Co.'s No. 3 Palmer, 899 ft. N and 330 ft. W, SE cor. E 100 ac. of W 200 ac., Sec. 31, Blk. B-2, H.&G.N. Sur. .....S.D. 2,771 ft; set 8¼-in. csg.

McMan O. & G. Co.'s No. 4 Palmer, 899 ft. S and 330 ft. W, NE cor. of E 100 ac. of W 200 ac., Sec. 31, Blk. B-2, H.&G.N. Sur. .....U.R. 10-in. csg. 1,875 ft.

McMan O. & G. Co.'s No. 5 Palmer, 330 ft. S. 930 ft. W, NE cor., E 100 ac. of W 200 ac., Sec. 31, Blk. B-2, H.&G.N. Sur. .....Drlg. 451 ft.

McMan O. & G. Co.'s No. 6 Palmer, 330 ft. S and E of NW E 100 ac. of W 200 ac., Sec. 31, Blk. B-2, H.&G.N. Sur. .....Location.

McMan O. & G. Co.'s No. 3 Saunders, 1,650 ft. N, 330 ft. E, SW cor., E 80 ac. of W 148 ac. of E 296 ac. of J. G. Eustis Sur. .....Drlg. 960 ft.

Midwest Explta. Co.'s No. 2-B Bowers, 1,320 ft. from N. 330 ft. from E, Sec. 93, Blk. B-2, H.&G.N.R.R. Sur. .....Location.

Mordyan O. & G. Co.'s No. 2 Davis, 330 ft. from N, 990 ft. from E, S½ NW, Sec. 8, Blk. 1 .....C.O. 1,830 ft.

Oil Operators' No. 1 Bowers, 330 ft. from N, 330 ft E, Sec. 93, Blk. B-2, H.&G.N. Sur. .....Show oil and gas 2,400-17 ft; drlg. 2,645 ft; first gas 2,483 ft; increased at 2,500 ft., 2,544 ft. and 2,590 ft.

Operators Oil Co.'s No. 1 Lovett, 330 ft. from N and W line, W½ NE, Sec. 57, Blk. B-2, H.&G.N. Sur. ...Drlg. 400 ft.

Operators Oil Co.'s No. 5 Cook-Faulkner, 990 ft. N and 330 ft. W, SE of W 90 ac., Sec. 30, Blk. B-2, H.&G. N. Sur. .....S.D. 2,748 ft.

Operators Oil Co.'s No. 6 Cook-Faulkner, 330 ft. S and E, NW cor., Sec. 30, Blk. B-2, H.&G.N.R.R. Sur. ....Show gas 2,424 and 2,477 ft; S.D. 2,750 ft.

Osborn et als' No. 1 Morse, 330 ft. N and E, SW cor. S½ NE. Sec. 1, Blk. 26, H.&G.N.R.R. Sur. .....Drlg. 185 ft.

Panhandle Ref. Co.'s No. 3 Saunders, 330 ft. N and E, SW cor. E½ NE, Sec. 3, Blk. 1, A.C.H.&B. Sur. .... Building rig.

Phillips Pet Co.'s No. 1 Eakin, 330 ft. from S. 330 ft. from W, Sec. 56, Blk. 25, H.&G.N.R.R. Sur. .....Drlg. 2,330 ft; show gas from 2,245-55 ft.

Phillips Pet. Co.'s No. 1 Jackson, 330 ft. each way from NE cor. NE. Sec. 58, Blk. B-2. H.&G.N.R.R. Sur. .....Show oil 2,712-22 ft; 250 ft oil in hole; set 5-in. csg. 3,018 ft, 7,000,000 ft. gas 3,130 ft; 1,000,000 ft. gas 3,144 ft; T.D. 3,145 ft.

Phillips Pet. Co.'s No. 2-A Jackson, 425 ft. S and E, NW NE, Sec. 88, Blk. B-2, H.&G.N.R.R. Sur. .....Set 8¼-in. csg. 2,800 ft.

Phillips Pet. Co.'s No. 6 Jackson, 330 ft. from N, 990 ft. from E line, S½ NE, Sec. 84, Blk. B-2, H.&G. N.R.R. Sur. .....Location.

Phillips Pet. Co.'s No. 6 Palmer, 330 ft. S and W, NE cor., Sec. 31, Blk. 2, H.&G.N.R.R. Sur. .....Rigging up.

Phillips Pet. Co.'s No. 7 Palmer, 990 ft. N and 330 ft. E. SW cor. E 183.1 ac. of Sec. 31, Blk. B-2. H.&G. N. Sur. .....Drlg. 2,296 ft.

Phillips Pet. Co.'s No. 8 Palmer, 1,650 ft. N and 330 ft. E of SW cor. E 83.1 ac., Sec. 31, Blk. B-2, H.&G. N.R.R. Sur. .....Drlg. 2,764 ft.

Prairie O. & G. Co.'s No. 1 Langham, 330 ft. N and E SW, Sec. 1, Blk. B-2, H.&G.N.R.R. Sur. .....Drlg. 2,525 ft.

Quillian et als' No. 1 Barrett, 330 ft. from N, 330 ft. from E, Sec. 131, Blk. 3, H.&G.N. Sur. .....Drlg. 525 ft.

Shamrock Oil Co.'s No. 1 Clayton, 150 ft. from NE cor. of S 80 ac. of W 140 ac. of E 277 ac., Sec. 50, Blk. 25, H.&G.N. Sur. .....Drlg. 2,330 ft.

Sherwood et als' No. 1 Gething, 330 ft. N and W SE cor N½ NE, Sec. 14, Blk. A-9, H.&G.N. Sur. .....Drlg. 2,125 ft.

Skelly Oil Co.'s No. 1 Jackson, 330 ft. from S and W lines E½, Sec. 62, Blk. B-2, H.&G.N.R.R. Sur. .....Show gas 2,394-2,410 ft; S.O. 2,-907-17 ft; T.D. 3,107 ft; swbd. 762 bbls. in 17 hrs; S.O. 2,-995-3,005 ft; swbd. 30 bbls. in 16 hrs.

Skelly Oil Co.'s No. 2 Jackson, 330 ft. S, 2,990 ft. W of W 160 ac., Sec. 90, Blk. B-2 .....T.D. 2,944 ft; swbd. 235 bbls. in 24 hrs; T.P. 2,934 ft.

Skelly Oil Co.'s No. 3 Jackson, 330 ft. from S and E lines of W 160 ac., Sec. 90, Blk. B-2, H.&G.N.R.R. Sur. .....Drlg. 2,930 ft; S.O. 2,913 ft; S.O. and gas 2,921-25 ft.

St. Clair Oil Co.'s No. 1 Dial, 330 ft. S and W NE cor. SE, Sec. 10, Blk. 25, H.&G.N.R.R. Sur. .....Cellar.

St. Clair Oil Co.'s No. 1 Rowe, Sec. 32, Blk. R .....S.D. 3,490 ft. hole full water.

St. Clair Oil Co.'s No. 1 L. S. Stockton, SE cor. Sec. 35, W. R. Lee Sur. .....Spudded and S.D.

The Texas Corp.'s No. 12 Bowers, 330 ft. from N and 330 ft. from W of NE, Sec. 63, Blk. B-2 .....T.D. 3,004 ft; run. 5 3-16-in. csg.

The Texas Corp.'s No. 13 Bowers, 990 ft. from N and 330 ft. from W line E½, Sec. 89, Blk. B-2, H.&G. N.R.R. Sur. .....2,000,000 ft. gas 2,660 ft; S.O. 7,-770 ft; drlg. 2,885 ft.

The Texas Corp.'s No. 3 Bruce Bull, 330 ft. from N, 330 ft. from W. Sec. 2, Blk B-2 .....8,000,000 ft. gas 2,340-50 ft; T.D 2,575 ft; U.R. 6⅝-in. csg.

The Texas Co.'s No. 3-B Chapman, 330 ft. S and E, NW cor. SE, Sec. 69, Blk. 25, H.&G.N.R.R. Sur. .....Location.

The Texas Co.'s No. 2 Comb-Worley, 330 ft. N and 2,310 ft. W SE cor. S½ S line, Sec. 36, Blk. 3, I.&G.N. Sur .....5,000,000 ft. gas 2,835-50 ft. and 70,000,000 ft. gas 2,884 ft; T.D. 2,915 ft; sprayed 52 bbls. first 24 hrs; T.P. 2,915 ft; fish. 2,916 ft; T.P. 2,915-16 ft; flowing 310 bbls. in 24 hrs.

The Texas Co.'s No. 3 Comb-Worley, 330 ft. N and W SE cor. Sec. 36, Blk. 3, I.&G.N. Sur. .....Drlg. 2,291 ft.

The Texas Co.'s No. 4 Comb-Worley, 330 ft. N and 1,736 ft. W SE cor. Sec. 36, Blk. 3, I.&G.N. Sur. ....Drlg. 2,511 ft.

The Texas Corp.'s No. 4 Cook-Faulkner, 1,973 ft. from W line and 330 ft. from N line of W 160 ac., Sec. 29, Blk. B-2, H.&G.N. Sur. .....Fish. 2,835 ft.

The Texas Co.'s No. 2 McLarty-B, at center of J. M. Rose Sur. .....20,000,000 f.. gas 2,405-60 ft; drlg. 2,675 ft; S.O. 2,665-75 ft; spraying 10 bbls. per hr.

The Texas Co.'s No. 3 Shaw, 330 ft. N and E of SW of E 279 ac., Sec. 5, Blk. 1, A.C.H.&B. Sur. .....Drlg. 2,075 ft.

The Texas Co.'s No. 6 Williams, 330 ft. S and E, NW cor. NE, Sec. 6, Blk. 1, A.C.H.&B. Sur. .....Drlg. 1,780 ft.

White Eagle O. & R. Co.'s No. 1 Faulkner, 330 ft. each way from SE cor. of E 60 ac., Sec. 29, Blk. B-2 H.&GN Sur .....Drlg. 2,686 ft.

P. A. Thorpe's No 1 Finley, 3,416 ft. from S and 330 ft. from W of B. F. Chaney Sur. .....Drlg. 1,370 ft.

Wilcox-Pampa Oil Co.'s No. 9 Combs-Worley, 330 ft. S and E, NW cor. NE SW, Sec. 35, Blk. 3, I.&G.N.R. R. Sur. .....T.D. 2,443 ft; set 8¼-in. csg.

HOCKLEY COUNTY

World Oil Co.'s No. 1 Ellwood, 320 ft. from N and W lines, League 7, Wilbarger County School lands; elevation 3,363 ft; contract depth 5,000 ft. .....Drlg. 3,224 ft.

HARTLEY COUNTY

Amarillo Oil Co.'s No. 9 Lee Bivins "A," C NW, Sec. 6, Blk. 21 .....Show oil 3,780 ft.; 100,000 ft. wet gas 3,990 ft; T.D. 4,145 ft; P.B. 3,835 ft; shot 190 qts. 3,785-3,-835 ft; C.O.

HUTCHINSON COUNTY

Amarillo Oil Co.'s No. 2 Ingerton-A, 1,650 ft. from N line, 1,071 ft. from E line, Sec. 41, H.&T.C.R.R. Sur .....50,000,000 ft. gas at 1,300 ft; set gas 3,990 ft; T.D. 4,145 ft; P.B. 3,835 ft; shot 190 qts. 3,785-3,-835 f..; C.O.

Alamosa Oil Co.'s No. 4 Sanford, 310 ft. S and 320 ft. W, NE cor. of N 160 ac. of S 240 ac., Sec. 85, Blk. 46, H.&T.C. Sur. .....Drlg. 1,700 ft.

Continental Oil Co.'s No. 1-B Johnson, 330 ft. S and W, NE cor. NW, Sec. 6, Blk. 1, B.&B. Sur. .....Location.

Devore Oil Co.'s No. 1 Johnson Bros., 330 ft. from S and E line, NW SW, Sec. 28, Blk. Y, A.&B. Sur. .....Drlg. 495 ft.

Holmes et als' No. 2 Quinn, 990 ft. from S line and 330 ft. from E line SW, Sec. 7, Blk. 9, I.&G.N. Sur. .....Drlg. 2,850 ft.

Holmes et als' No. 2 Moore, 990 ft. N and 330 ft. E, SW cor. E½ SE, Sec. 125, Blk. 4, I.&G.N.R.R. Sur. ..Drlg. 350 ft.

Huey et als' No. 3 Smith et al, 330 ft. from N and 600 ft. from W of S 40 ac. of E 100 ac., SE, Sec. 12, Blk. Y .....S.D. 410 ft.

McMan O. & G. Co.'s No. 2 Sanford, 300 ft. from W line and 315 ft. from S line N 274 ac., Sec. 83, Blk. 46, H.&T.C. Sur. .....T.D. 3,153 ft; T.P. 3,025-30 ft; to shoo..; C.O. 3,153 ft.

Midwest Explta. Co.'s No. 2 Moore, 330 ft. from S, 1,320 ft. from W, Sec. 125. Blk. 4, H.&G.N. Sur. .....Set 8-in. csg. 2,365 ft.

O. B. Penney's No. 2 Johnson Bros., 330 ft. from S line, 330 ft. from W line W½ NE, Sec. 35, Blk. Y, A.&B. Sur. .....31,000,000 ft. gas 1,990 ft; C.O. 2,-310 ft.

Pennowa Oil Co.'s No. 2 Smith, 330 ft. S and W, NE NW Sec. 7, Blk Y, N&C Sur. .....Drlg. 650 ft.

Phillips Pet. Co.'s No. 1 Cheatham, 427 ft. N and 330 ft. W SE cor. SE SE, Sec. 28, Blk. Y .....Drlg. 2,275 ft.

Phillips Pet. Co.'s No. 1 Johnson Bros., 330 ft. from N and W lines NW, Sec. 34, Blk. Y, A.&B. Sur. .....Pay 2,951-72 ft; initial prod. 30 bbls. oil and 5,000,000 ft. gas; drlg. 2,992 ft.

Phillips Pet. Co.'s No. 1 Johnson-Kotz, 350 ft. N and 330 ft. E SW W ½ SW, Sec. 35, Blk Y .....Drlg. 2,295 ft.

Phillips Pet. Co.'s No. 4 Johnson, Sec. 28, Blk. Y, A.&B. Sur. .....2,000,000 ft. gas; set 8-in. csg. at 2,826 ft; T.D. 2,858 ft; T.P. 2,-848 ft; I.P. 115 bbls.

Phillips Pet. Co.'s No. 6 (Florence), 330 ft. each way from S and W lines, E½ .....T.D. 2,876 ft; T.P. 2,805 ft; I.P. 70 bbls; shot 54 qts. 2,788-2,828 ft; fishing csg.

Prairie O. & G. Co.'s No. 4 Cal Merchant, 5,612 ft. S 330 ft. E, NW, Sec. 37, Blk. 47, H.&T.C.R.R. Sur. .. Drlg. 1,245 ft.

Prairie O. & G. Co.'s No. 4 Shaw, 330 ft. S and 990 ft. W NE cor., Sec. 27, Blk. Y .....C.O. 2,6[illegible] ft.

Skelly Oil Co.'s No. 2 Lee Bivins, 306 ft. from E and 1,242 ft. from S line, S 160 ac. of N 320 ac., Sec. 84, Blk. 46, H.&T.C.R.R. Sur. .....S.D. 205 ft.

Skelly Oil Co.'s No. 3 Whittenburg, 330 ft. from S and 2,230 ft. from W, Sec. 22, Jameson Sur. .....Drlg. 2,868 ft.

Skelly Oil Co. No. 7 Whittenburg, 330 ft. from S and 1,570 ft. from W lines, Sec. 22, Jameson Sur. ..... Top pay 2,918 ft; swbng. 142 bbls; C.O. 2,959 ft.

Sunny Jim Oil Co.'s No. 3 Pitts, 330 ft. N and W, of most southerly SE cor., Sec. 9, Blk. M-21, T.C. Sur.. Location.

The Texas Company's No. 2 Quinn, 990 ft. N, 330 ft. E SW cor. E½, Sec. 7, Blk. 9, I.&G.N. Sur. ..... Drlg. 2,770 ft.

Travelers Oil Co.'s No. 2 Cockrell, 350 ft. from E and S line, Sec. 8, Blk. B-3, D.&S.E. Sur. ..... Drlg. 1,040 ft.

KING COUNTY

Huff Oil Co.'s No. 1 Martin, 1,320 ft. from N line and 1,320 ft. from E line, Sec. 171, Blk. F, H.&T.C. Sur... Rig.

LAMB COUNTY

Dan Freed et als' No. 1 Ellwood, CWL, Sec. 9, Blk. T, T. A. Thompson Sur. ..... S.D. 2,750 ft.

LIPSCOMB COUNTY

Brown et als' No. 1 Box T Ranch, SW NE, sec. 612, H.&T.C. Sur. ..... S.D. 3,210 ft.

Okla. Public Service Co.'s No. 1 C. W. Jones, NE SW, Sec. 100, H.&T.C. Sur. ..... S.D. 4,615 ft.

LUBBOCK COUNTY

Center Oil Co.'s No. 1 Bowles Ranch ..... Small show oil 1,133-40 ft.; sand fishing 4,167 ft.

MOORE COUNTY

Amarillo Oil Co.'s No. 1 Read-A, C NW, Sec. 14, Blk. 13-12, D.&P. Sur. ..... Fishing 1,975 ft.

Amarillo Oil Co.'s No. 1 Perkins-A, 330 ft. each way out of NW cor. NE, Sec. 76, Blk. 3..... Drlg. 1,045 ft.

Red River Gas Co.'s No. 1 J. M. Shelton, 330 ft. each way from SE cor., Sec. 52, Blk. 3, G.&M. Sur. ..... Cellar.

Dana O. & G. Co.'s No. 1 Anthony, C NW, Sec. 250, Blk 44, H.&T.C.R.R. Sur. ..... Drlg. 1,810 ft.

Dana O. & G. Co.'s No. 1 Road-A, C NW, Sec. 14, Blk. B-12 ..... Location.

Fritch O. & G. Co.'s No. 1 Lee Bivins, C NE 40 ac. of N 160 ac., Sec. 4, Geo. Mahan Sur. ..... 2,000,000 ft. gas 1,550-65 ft; C.O. 2,060 ft.

Phillips' No. 1 Wilson, 330 ft. each way out of NW cor. S½ SE, Sec. 157, Blk. 3-T ..... S.D. 3,115 ft; 5 000,000 ft. gas 2,-773-2,918 ft.

MOTLEY COUNTY

Explin. Co.'s No. 5 Matador, C, Sec. 45, Blk. J-B, C. B.&C.N.G.R.R. Sur. ..... S.D. 529 ft.

Explin. Co.'s No. 6 Matador, 330 ft. from N line and 330 ft. from E line, Sec. 132, Blk. M ..... Drlg. 825 ft.

Matador Oil Corp.'s No. 1 Owen, C NE, Sec. 10, Blk. G, B.&B. Sur. ..... S.D. 580 ft.

POTTER COUNTY

Canadian River Gas Co.'s No. 1 Allison "A," 386 ft. from E line, 5,439 ft. from S line, Sec. 1, W. T. Palmer Sur.. Location.

RANDALL COUNTY

W. A. Patterson's No. 1 Palo Duro, Sec. 60, Blk. K-14 ... S.D. 1,250 ft.

ROBERTS COUNTY

Big Bend Oil Co.'s No. 1 Ledrick, Sec. 7, Blk. 5-A ..... S.D. 5,975 ft.

WHEELER COUNTY

A. R. Anderson et als' No. 1 Cuddleback, C SE NW, Sec. 18, Blk. Z-4, H.&G.N. Sur. ..... Location.

Angus et als' No. 1 Linkey, C NE NW, Sec. 126, Blk 33... Drlg. 1,400 ft.

Byrens et als' No. 1 Johnson, SW cor. NE, Sec. 58, Blk. A-5, H.&G.N. Sur. ..... S.D. 2,920 ft.

Fain et als' No. 2 Binkley & Cain, C SE, Sec. 5, Blk. 24, H.&G.N. Sur. ..... T.D. 2,520 ft; first gas 2,324 ft; S.O. 2,430 ft.

Johnson et als' No. 1 Hicks, C NW SW, Sec. 49, Blk. 17, H.&G.N.R.R. Sur. ..... Drlg. 1,505 ft.

Johnson & Wisch Kamper's No. 1 West, C NE NW, Sec. 30, Blk. 17, H.&G.N. Sur. ..... 1,000,000 ft. gas 1,812-25 ft; S.D. 2,250 ft.

Lone Star Gas Co.'s No. 3 Burcham, C NE SE, Sec. 91, Blk. 17, H.&G.N. Sur. ..... S.D. 1,220 ft.

Magnolia Pet. Co.'s No. 1 Laycock, 652 ft. from W and 660 ft. from N, SE, Sec. 9, Blk. 27, H.&G.N.R.R. Sur.. Rigging up.

Osage Dev. Co.'s No. 1 Purcell, C SE NE, Sec. 51, Blk. 17, H.&G.N. Sur. ..... Drlg. 1,275 ft.

Upham Gas Co.'s No. 1 Ladd, C NE, Sec. 97, Blk. 23, H.&G.N. Sur. ..... Drlg. 1,550 ft.

Upham Gas Co.'s No. 1 Shelton, C SE NE, Sec. 22, Blk. 24, H.&G.N.R.R. Sur. ..... S.D. 480 ft.

Vaughn et als' No. 3 Ackley, 330 ft. from N, 330 ft. from W. Sec. 4, Blk 27 H.&G.N. Sur. ..... Drlg. 1,600 ft.

Vaughan et als' No. 4 Ackley, 330 ft. N and E, SW cor. NW, Sec. 4, Blk. 27, H.&G.N.R.R. Sur. ..... Location.

Vaughn et als' No. 5 Ackley, 330 ft. S and E, NW cor. NW NW, Sec. 4, Blk. 27, H.&G.N.R.R. Sur. ..... Location.

WILDCAT OPERATIONS IN WEST TEXAS

(Continued from Page 71)

Gulf Prod. Co.'s No. 7 Waddell, Sec. 19, Blk. B-23, 2,640 ft. from S, 330 ft. from W ..... Top salt 1,108 ft.; slight show gas 2,285 ft.; 1,000,000 ft. gas at 3,065 ft.; top lime 2,972 ft.; shut down 3,610 ft.; 600 ft. water; making 7 000,000 ft. gas; to re-run tubing.

Gulf Prod. Co.'s No. 8 Waddell, 330 ft. N and W of SE cor. Sec. 2, Blk. B-24, school land ..... Drlg. 50 ft.

Humble Oil & Ref. Co.'s No. 1-D University, 2,310 ft. from N and 1,650 ft. from W Sec. 34, Blk. 30 ..... Shut down 2,903 ft.

Simms-Atlantic No. 10-A University, 2,310 ft. S and E Sec. 39, Blk. 30, Univ. ..... Drlg. 410 ft.

Simms-Atlantic's No. 2-F University, Sec. 45, Blk. 30, 2,310 ft. from N, 330 ft. from E. University ..... Location.

Tidal Oil Co.'s No. 10 University, 859 ft. from W and 1,255 ft. from S line of SE Sec. 47, Blk. 30, University Land ..... Location.

T. P. Coal & Oil Co.'s No. 2 University, 2,310 ft. from S, 1,650 ft. from W Sec. 34, Blk. 30, University Land.. Location.

Church-Weekly's No. 3 Dowell-University, 990 ft. from S and W Sec. 39, Blk. 30 ..... 1,500 ft. oil in hole; top pay 2,890 ft.; shut down 3,025 ft.; swedging casing.

CROCKETT COUNTY

Eppenaur et al's No. 2 Noelke, 500 ft. N and 1,250 ft. E of SE cor. Sec. 64, Blk. 1, I.&G.N.R.R. Sur..... Shut down 650 ft.

Lewis & Daniels' No. 1 Pecos River Bed, 19 yards S and 37 degrees E of NW cor. Sec. 33, Blk. 1, I.&G.N. Sur.. Shut down 1,185 ft.

W. W. Donnelly & Young's No. 1 Shannon, SW SW SE Sec. 42, Blk. BB, T.C.R.R. Sur. ..... Shut down 1,755 ft.

W. W. Donnelly & Young's No. 1 Middlebuster, C Sec. 11, Blk. 9, D.&S.E. Sur. ..... 7,000,000 ft. gas at 1,663 ft.; shut down 1,755 ft.

Moncrief's No. 3 Todd, 330 ft. from S and E Sec. 29, Blk. VV ..... Machine.

Taylor-Link's No. 3 Dowell, 1,000 ft. S of No. 2, Sec. 52, Blk. BB, E.L.&R.R. Sur. ..... Drlg. 2,282 ft.

CULBERSON COUNTY

Deep Rock Oil Co.'s No. 2 Kloh, 380 ft. N and 1,388 ft. W Sec. 39, Blk. 59 ..... Rigging up standard tools; drlg. 1,635 ft.

Hickey & Stiver's No. 1 C. O. Finley, 600 ft. N and 1,980 ft. W Sec. 20, Blk. 82 ..... Small oil show 1,331 ft.; shut down 2,260 ft.; hole full water; elevation 3,874 ft.

West Coast Oil & Exploration Co.'s No. 1 McGregor, C NW Sec. 14, Blk. 81 ..... Total depth 720 ft.; straightening crooked hole.

Scott & Dittman's No. 1 Miller, 1,160 ft. N and 2,480 ft. E Sec. 1, Blk. 97, Public School Land ..... Rainbow 1,056 ft.; 300 ft. sulphur water 1,725 ft.; oil show 2,025 ft.; hole full sulphur water; shut down 2,886 ft.; running 6-in. casing.

ECTOR COUNTY

Anderson's No. 1 fee, 1,320 ft. E along S line Sec. 19, and 150 ft. N at right angles with line Sec. 18, Blk. B-16, Public School Land ..... Moving in material.

R. R. Penn et al's No. 1 Kloh-Rumsey, 330 ft. N and 2,640 ft. E of SW Sec. 7, Blk. 44, Twp. 3s, T.&P. R.R. Sur. ..... Spudding 110 ft.

EL PASO COUNTY

Laytex' No. 1 Malone, 2,200 ft. SW and NW Sec. 46, J. M. Day, Sur. ..... Shut down 1,107 ft.; running 10-in. casing; rigging up rotary.

EDWARDS COUNTY

A. M. Griffith's No. 1 Wardlow, Sec. 60, V-8, J. C. Clift Sur. ..... Fishing 2,600 ft.

FISHER COUNTY

Bickerstaff et al's No. 1 McWhirter, 2,640 ft. E and 150 ft. N of SW cor. of Sec. 295, Blk. 2, E.&T.C. Sur..... Shut down 2,000 ft. for orders.

Cranfill & Reynolds' No. 1 Flanagan, 990 ft. from S and W of Sec. 200, Blk. 1, B.B.B.&C. Sur. ..... Show oil 2,875 ft.; running 6-in. casing 2,985 ft.

Cranfill & Reynolds' No. 1 Texas Cement, Sec. 10, 330 ft. from S and W of most westerly NW cor. ..... Spudded.

Magnolia Pet. Co.'s No. 1 Lee, Sec. 357, 2,310 ft. from N and 4,286 ft. from W ..... Drlg. 2,450 ft.

Mesa Oil Co.'s No. 1 Griffin, 849 ft. N and 465 ft. E of NE cor. Sec. 20, School Land ..... Shut down 2,985 ft.

Midwest Oil Co.'s No. 1 Steele, 660 ft. from S, 440 ft. from W Sec. 210, Blk. 1 ..... Rigging up.

H. Riley's No. 1 J. H. Veatch, 250 ft. S and 990 ft. E of NW cor. Sec. 4, English Sur. ..... Drlg. 460 ft.

Roeser & Pendleton's No. 1 Johnson, 330 ft. from N, 3,870 ft. from W Sec. 71, Blk. 1, H.&T.C. ..... Drlg. 2,155 ft.

Roeser & Pendleton's No. 2 Haught, Sec. 191, Blk. 1, 590 ft. from N and 1,320 ft. from W ..... Top pay 3,123 ft.; hole full oil; shut down.

The Texas Company's No. 1-B Stephens, 330 ft. from N and W of S half SW Sec. 79, Blk. 1, H.&T.C.R.R. Sur. ..... Drlg. 1,575 ft.

GARZA COUNTY

Bell Thompson's No. 1 Tuffing, 330 ft. from S, 2,310 ft. from E Sec. 10, Blk. 6, H.&G.N. ..... Spudded and shut down.

Emerald Oil Co.'s No. 1 J. C. Bargsley, 2,310 ft. from E and 330 ft. N of SW cor. Sec. 135, Blk. 5, H.&G.N... Total depth 2,551 ft.; 200 ft. oil in hole; plugged back to 2,535 ft.; shot 100 quarts from 2,510-35 ft.; 200 ft. oil in hole.

Gulf Prod. Co.'s No. 1 Street, C Sec. 7, Blk. 8, H.&G.N. R.R. Sur. ..... Drlg. 3,940 ft.

Paul Steed et al's No. 1 Boren, Sec. 136, Blk. 5, 330 ft. from N, 990 ft. from E, H.&G.N.R.R. Sur. ..... Drlg. 380 ft.

GLASSCOCK COUNTY

The California Co.'s No. 3 Currie, 990 ft. S and 2,310 ft. W of NE cor. Sec. 219, Blk. 29, W.&N.W.R.R. Sur. Rigging up.

Chas. Daniel et al's No. 1 Meek, 2,310 ft. W and 1,600 ft. N of SE cor. Sec. 7, Blk. 34, Twp. 3s, T.&P. Sur... Shut down 500 ft.

Gibson-Johnson's No. 1 Dean, 1,320 ft. S and E of NW cor. Sec. 2, Blk. 33, Twp. 2s, T.P.R.R. Sur. ..... Top salt 1,075 ft.; top lime 2,560 shut down 3,454 ft.

Houston Oil Co.'s No. 1 McDowell, 330 ft. from N and 2,310 ft. from E Sec. 30, Blk. 33, Twp. 2s ..... Shut down 2,603 ft.

Kirby Pet. Co.'s No. 1 Phillips, Sec. 23, Blk. 33, Twp. 2s, 330 ft. from N and 2,310 ft. from W ..... Top pay 2,212 ft.; 1,200 ft. fluid in hole; shut down 2,268 ft.; fishing pipe.

Landreth and others' No. 1 Huston, Sec. 29, Blk. 35, Twp. 2s, 330 ft. from S, 2,310 ft. from E, T&P Sur.. Location.

Lion Oil & Ref. Co.'s No. 1 Coffee, 330 ft. from N and E Sec. 22, Blk. 33, Twp. 2s, T.&P.R.R. Sur. ..... Shut down 2,065 ft.

Midwest Oil Co.'s No. 1 Edwards, 330 ft. from S, 2,259 ft. from E, Sec. 20, Blk. 34, T.&P.R.R. Sur. ..... Shut down 2,538 ft.

Penn Oil Co.'s No. 1 Schaffer, 1,320 ft. from S, 2,640 ft. from E Sec. 4, Blk. 32, Twp. 3s, T.P.R.R. Sur. ..... Drlg. 1,955 ft.

Schermerhorn Oil Co.'s No. 1 Phillips, Sec. 23, Blk. 33, Twp. 2s, T.&P.R.R. Sur., 330 ft. N, 2,310 ft. E ..... Rigging up.

Sun Oil Co.'s No. 1 Phillips, Sec. 14, Blk. 33, Twp. 2s, 330 ft. from S, 2,310 ft. from W ..... Rigging up.

Texas State Oil Co.'s No. 1 Coffey, 330 ft. from S and 990 ft. from E Sec. 19, Blk. 34, Twp. 3s ..... Shut down 2,461 ft.

World Oil Co.'s No. 2-C McDowell, Sec. 21, Blk. 34, Twp. 2s, 330 ft. S and 2,310 ft. E of NW cor. ..... Rig up setting engine.

HOCKLEY COUNTY

World Oil Co.'s No. 1 Elwood, 320 ft. from N and W line, League 7, Wilbarger County School Land ..... Drlg. 3,224 ft., anhydrite.

HOWARD COUNTY

Amerada Pet. Corp.'s No. 12 Roberts, 660 ft. from S, 1,022 ft. from E. Section 128, Blk. 29 ..... Drlg. 690 ft.

California Co.'s No. 3 Roberts Lease No. 1, Sec. 137, Blk. 29, 1,654 ft. from S, 990 ft. from E, W.&N.W.R.R. Sur. ..... Drlg. 652 ft.

Continental Oil Co.'s No. 1 Kloh-Rumsey, 2,310 ft. S, 330 ft. W of NE cor. Sec. 13, Blk. 33, Twp. 2s, T.&P.R.R. Sur. ..... Location.

Continental Oil Co.'s No. 2 Kloh-Rumsey, 1,650 ft. S and 330 ft. w of NE cor. Sec. 13, Blk. 33, Twp. 2s, T.&P. Sur. ..... Location.

Continental Oil Co.'s No. 3 Kloh-Rumsey, 990 ft. S and 330 ft. W NE cor. Sec. 13, Blk. 33, Twp. 2s, T.&P. R.R. Sur. ..... Location.

Continental Oil Co.'s No. 9-A Settles, 220 ft. from N, 660 ft. from E Sec. 135, Blk. 29, W.&N.W.R.R. Sur. ..... Location.

F. H. E. Oil Co.'s No. 11-B Dora Roberts, 1,700 ft. S and 2,310 ft. E of NW cor. Sec. 137, Blk. 29, W.&N.W. Sur. ..... Drlg. 2,616 ft.

Fuhrman Pet. Co.'s No. 1 Read, 2,310 ft. N and 330 ft. E of SW cor. Sec. 41, Blk. 32, Twp. 1n, T.&P.R.R. Sur.. Shut down 3,203 ft.

Gulf Prod. Co.'s No. 7 Clay, 330 ft. S and 990 ft. W of NE cor. W half Sec. 155, Blk. 29, W.&N.W.R.R. Sur... Drlg. 1,420 ft.

Group No. 1 & Continental Oil Co.'s No. 7-A Settles, 1,650 ft. N and 2,310 ft. W of SE cor. Sec. 135, Blk. 29, W.&N.W.R.R. Sur. ..... Location.

Group No. 1 & Continental Oil Co.'s No. 8-A Settles, 990 ft. N and 2,310 ft. W of SE cor. Sec. 135, Blk. 29, W.&N.W.R.R. Sur. ..... Location.

Group No. 1 Oil Co. and Continental Oil Co.'s No. 9 Settles-A, 200 ft. S and 660 ft. W NE cor. Sec. 135, Blk. 29, W.&N.W. ..... Location.

Howard Oil Corp.'s No. 2 Kloh et al, 990 ft. from S and E of NW Sec. 5, Blk. 32, Twp. 2s ..... Total depth 2,330 ft.; top pay 2,315-25 ft.; pumped 2 bbls. per hour; preparing to test; pumping 35 bbls. daily.

Howard Oil Corp.'s No. 3 Abrams, 990 ft. from N and 330 ft. from W of Sec. 5, Blk. 32, Twp. 2s, T.&P. R.R. Sur. ..... Top pay 2,250 ft.; shut down 2,280 ft.

Humble Oil & Ref. Co.'s No. 4 Clay, 1,650 ft. from W, 330 ft. from S. Sec. 138, Blk. 29, W.&N.W.R.R. .... Drlg. 1,212 ft.

Laurel Oil & Casden Oil Co.'s No. 14 Roberts, 1,600 ft. N and 330 ft. W of SE cor. Sec. 136, Blk. 29, W.&N.W.R.R. Sur. ..... Location.

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Magnolia Pet. Co.'s No. 12 Dora Roberts, 2,440 ft. N and 1,650 ft. E of SW cor. Sec. 136, Blk. 29, W.&N.W. Sur. ..... Shut down 2,927 ft.; set 8¼-in. casing.

Mariand Prod. Co.'s No. 3 Clay-F, 250 ft. S and 660 ft. W of NE cor. Sec. 138, Blk. 129, W.&N.W.R.R. Sur. ..... Shut down 2,675 ft. with show oil 2,595-2,675 ft.

McGinley & Seigler's No. 1 Barnett, 330 ft. S and E of NW cor. Sec. 928, Blk. 29, W.&N.W.R.R. Sur. ..... Total depth 1,347 ft.; top pay 1,327-43 ft.; shot 30 qts. from 1,327-43 ft.; bailed 15 bbls. oil after standing 16 hrs.; to test.

McGinley et al's No. 2 Hyman, Sec. 92, Blk. 29, W.&N.W.R.R. Sur. ..... Rigging up.

Merriwether's No. 1 Smith, 150 ft. from S, 2,490 ft. from W Sec. 45, Blk. 33 ..... Shut down 425 ft.

Merrick & Bristow's No. 11 Hooks, Sec. 140, Blk. 29, 625 ft. from N, 2,015 ft. from W ..... Drlg. 1,785 ft.

Merrick-Bristow's No. 9 Roberts, 1,155 ft. from S, 220 ft. from W Sec. 137, Blk. 29, W.&N.W.R.R. Sur. ..... Shut down 1,347 ft.

Merrick & Lamb's No. 9 Clay, 660 ft. from S, 360 ft. from E, Sec. 126, Blk. 29 ..... Drlg. 1,140 ft.

Moody Oil Co.'s No. 16-B, 990 ft. from N, 330 ft. from W Sec. 137, Blk. 29, T.&P. ..... Drlg. 1,090 ft.

Moody Oil Co.'s No. 17-B, Sec. 137, Blk. 29, 1,650 ft. from N, 330 ft. from W, W.&N.W.R.R. ..... Top pay 1,315 ft.; shut down 1,410 ft.

Moody Oil Co.'s No. 19-B Roberts, Sec. 137, Blk. 29, 1,040 ft. from N, 2,310 ft. from W ..... Cellar.

Moody Oil Co.'s No. 20-B Roberts, 1,750 ft. from N and 2,310 ft. from W. Sec. 137, Blk. 29 ..... Shut down 243 ft.

Moody Oil Corp.'s No. 21-B Roberts, Sec. 137, Blk. 29, 2,310 ft. from N and 990 ft. from W. W&NW Sur. ..... Drlg. 1,300 ft.

Moody Oil Co.'s No. 22-B Roberts, 2,310 ft. from N and 1,610 ft. from W, Sec. 137, Blk. 29 ..... Shut down 250 ft.

Moody Oil Co.'s No. 23-B, 990 ft. from N and W of Sec. 137, Blk. 29 ..... Shut down 261 ft.

Moody Oil Co.'s No. 18-E Roberts, 190 ft. from N and 2,310 ft. from E Sec. 136, Blk. 29 ..... Cellar.

Moody Oil Corp.'s No. 20-E, 1,650 ft. S, 2,310 ft. W of NE Sec. 136, Blk. 29, W.&N.W.R.R. Sur. ..... Location.

Owen & Sloan's No. 13 Roberts, 1,700 ft. from S and 330 ft. from E Sec. 136, Blk. 29, W.&N.W. ..... Shut down 1,293 ft.

Owen & Sloan's No. 14 Roberts, 1,600 ft. from S, 330 ft. from E Sec. 136, Blk. 29, W.&N.W. ..... Location.

Plymouth Oil Co.'s No. 4 Abrams, 330 ft. from N and 1,650 ft. from W Sec. 5, Blk. 32, Twp. 2s ..... Drlg. 1,660 ft.

Plymouth Oil Co.'s No. 5 Abrams, Sec. 5, Blk. 32, Twp. 2s, 1,650 ft. from N, 330 ft. from W, T.&P. .... Building rig.

Pure Oil Co.'s No. 1 Scrivner, 990 ft. E, 330 ft. N of SW Sec. 4, Blk. 32, Twp. 2s, T.&P.R.R. Sur. ..... Total depth 2,302 ft.; top pay 2,265 ft.; pumped 80 bbls.; cleaning out after shot.

Shell Pet. Corp.'s No. 1-B Settles, 1,650 ft. from S, 2,310 ft. from W Sec. 135, Blk. 29, W.&N.W.R.R. Sur. .... Drlg. 1,720 ft.

Shell Pet. Corp.'s No. 1 Kloh-Rumsey, 2,310 ft. from S and 330 ft. from E Sec. 13, Blk. 33, Twp. 2s, T.&P.R.R. Sur. ..... Drlg. 1,718 ft.

Shell Pet. Corp.'s No. 2-A Roberts, 1,320 ft. from N, 1,650 ft. from W Sec. 156, Blk. 29, W.&N.W.R.R. Sur. ..... Drlg. 1,820 ft.

Simms Oil Co.'s No. 1 Clay, 330 ft. from S, 2,310 ft. from W Sec. 127, Blk. 29 ..... Drlg. 1,075 ft.

Sprague Oil Co.'s No. 3 Roberts, 990 ft. from N and 330 ft. from W. Sec. 156, Blk. 29, W.&N.W.R.R. Sur. ..... Location.

Superior Oil Co.'s No. 14 Dora Roberts-B, 2,310 ft. E and 280 ft. S of NW cor. Sec. 127, Blk. 29, W.&N.W. of SW cor. Sec. 137, Blk. 29, W.&N.W.R.R. Sur. ..... Shut down 2,601 ft.

Ward Oil Co.'s No. 8 Roberts, 1,485 ft. from S, 220 ft. from W Sec. 137, Blk. 29 ..... Shut down 1,319 ft.

Ward Oil Co.'s No. 9 Roberts, 1,485 ft. from S, 220 ft. from W line of Sec. 137, Blk. 29, W.&N.W.R.R. Sur. .. Location.

Ward Oil Co.'s No. 10 Roberts, 1,485 ft. from S and 640 ft. from W line Sec. 137, Blk. 29, W.&N.W.R.R. Sur. .. Location.

Ward Oil Co.'s No. 11 Roberts, 2,430 ft. from S, 760 ft. from W line of Sec. 137, Blk. 29, W.&N.W. ..... Location.

HUDSPETH COUNTY

California Co.'s No. 1 University, 2,821 ft. N and 2,554 ft. E of SW cor. Sec. 19, Blk. E ..... Total depth 1,640 ft.; redrilling hole 1,465 ft.

George Richardson's No. 1 Faxton, 2,640 ft. from N and W Sec. 9, Blk. 16 ..... Spudded and shut down; drilling water well.

Western States Oil Co.'s No. 1 Moore, C SE Sec. 16, Blk. 71, Twp. 6, T.&P. Sur. ..... Shut down 2,685 ft.; fishing job.

Western States Oil Co.'s No. 1 Gardner & Moseley, NE NW Sec. 12, Blk. 18 ..... Shut down 3,140 ft.; fishing.

IRION COUNTY

Baker & Hodges' No. 1 Tankersley, 1,320 ft. from S, 150 ft. from W Sec. 23, G.C.&S.F. ..... Shut down 1,303 ft.

Crawford Oil Co.'s No. 1 Williams, 450 ft. from N, 150 ft. from W Subd. 8 ..... Drlg. 515 ft.

Carl Cromwell's No. 1 Tankersley, 2,490 ft. from S and E, Sec. 1,219, T.C.R.R. Sur. ..... Location.

Kimbrough & Flinchbaugh's No. 1 Tankersley, 160 ft. S and 200 ft. W of NE cor. S half Sec. 712, Ford Willig Sur. ..... Show oil 1,318-29 ft.; total depth 1,335 ft.; averaging 60 bbls. daily 37 degrees gravity oil; shut down for storage.

Pecos Valley Oil Co.'s No. 2 Stocks, Sec. 19, Blk. 3, 1,020 ft. from S and W. H.&T.C. Sur. ..... Shut down 1,245 ft.

Webb's No. 2 Nutt, 200 ft. from N and 711 ft. from E Subd. 5 ..... Drlg. 1,009 ft.

Kingwood Oil Co. et al's No. 1 J. D. Sugga, SE NW SE Sec. 19, Blk. 7, H.&T.C. Sur. ..... Show gas 7,656 ft.; drlg. 7,686 ft.

P. H. Williams' No. 1 Ash, C of Sec. 20, Washington County ..... Shut down 3,535 ft.

JEFF DAVIS COUNTY

J. K. Hughes Dev. Co.'s No. 2 Means, 1,622 ft. N line, 600 ft. W line Sec. 345, H.&T.C. Sur. ..... Show gas 3,371 ft.; fresh water 3,000-05 ft.; underreaming 5 2/16-in. casing; shut down 4,005 ft.; 600 ft. fresh water 4,000-36 ft.

JONES COUNTY

J. H. Adsit et al's No. 1 Swenson, C of NE of SE Sec. 193, B.B.B.&C. Sur. ..... Fishing casing at 1,441 ft.

Cosden & Herbert Oil Co.'s No. 1 Bickley, 320 ft. N and 310 ft. E of SW cor. S half NW Sec. 50, Blk. 18, T.&P. Sur. ..... Cleaning out 2,512 ft.; top lime 2,471 ft.; top pay 2,491-97 ft.; swabbed 19 bbls. first 12 hrs.

Cosden-Herbert et al's No. 3 Bickley, 330 ft. N and W of SE cor. of S half NW Sec. 50, Blk. 18 ..... Spudded.

W. G. Clark et al's No. 1 Collins, 330 ft. S and E of NW cor. Sec. 39, Blk. 18, T.&P.R.R. Sur. ..... Underreaming 8-in. casing 2,308 ft.

Humble Oil & Ref. Co.'s No. 2 Bickley, 330 ft. S and W of NE cor. of SW Sec. 50, Blk. 18, T.&P.R.R. Sur. ..... Underreaming 8-in. casing 2,285 ft.

McNeeley et al's No. 1 Roscoe Bland, 1,175 ft. N and 240 ft. W of SE cor. Subdivision 20, A-184, DeWitt Co. School Land ..... Spudded and shut down.

Sedgwick Oil & Gas Co.'s No. 1 Brown, 660 ft. N and 1,320 ft. E of SW cor. Sec. 9, Blk. 1, T.&N.O. Sur. .... Rigging up.

Texas Pacific Coal & Oil Co.'s No. 1 Smith, 1,822 ft. S and 2,042 ft. E of SW cor. Sec. 51, Blk. 18, T.&P.—Top lime 2,499 ft.; top pay 2,480-85 ft.; swabbed 6 bbls. per hr.

The Texas Company's No. 3 Camp, 1,189 ft. S and 326 ft. W of NE cor. of Sec. 13, Blk. 19, T.&P.—Underreaming 5-in. casing at 2,860 ft.

KIMBLE COUNTY

C. L. Bryant and others' No. 1 Lambert, 700 ft. from N and W line of F. Lotta Sur.—Drlg. 685 ft.

Lindsay Bros.' No. 1 Anderson, Sec. 167, 1,320 ft. from N and E—Drlg. 984 ft.

McLean & Jamison's No. 1 Cannon, 1,940 ft. N and 300 ft. W of SE cor. Robert Cochran Sur.—Shut down 1,280 ft.

LOVING COUNTY

Humble Oil & Ref. Co.'s No. 1 Kloh, 2,640 ft. N and W Sec. 35, Blk. 55, Twp. 2, T.&P.R.R. Sur.—Location.

Lockhart & Co.'s No. 1 Hayzell, 2,492 ft. SW of Ne. line and 660 ft. NW of SE line Sec. 84, Blk. 33, H.&T.C. R.R. Sur.—Top salt 700 ft.; fishing 3,980 ft.

Lockhart & Co.'s No. 1-H Wheat, 990 ft. NE and SE Sec. 85, Blk. 33, H.&T.C.—Total depth 3,197 ft.; plugged back 1,180 ft.; spraying 10 bbls. oil; cleaning out.

LYNN COUNTY

George McCamey's No. 1 Edwards, 165 ft. N and E Sec. 5, Blk. 2, L.S.&W. Sur.—Top salt 2,140 ft.; oil show 1,580-90 ft.; cem. 8¼-in. casing 2,500 ft.; shut down 4,500 ft.

MENARD COUNTY

J. C. Barnett's No. 2 Callan, Sec. 1, 1,050 ft. from S. 1,190 ft. W—Drlg. 290 ft.

Cromwell & Duffey's No. 1 Winslow, C SE Sec. 32, T.&N.O. Sur.—Show oil in lime 2,390 ft.; underreaming 6-in. casing 2,765 ft.

MITCHELL COUNTY

Seiger's No. 1 Scott, C of NE of SW Sec. 36, Blk. 17, S.P.R.R. Sur.—Shut down 730 ft.

Teas & Wheeler's No. 1 Radford, 1,320 ft. N and W of Sec. 1, Blk. 27, T.&P. Sur.—Running 6⅝-in. casing; total depth 4,154 ft.

NOLAN COUNTY

Phillips Pet. Co.'s No. 1 Plunkett, 330 ft. N and W of SE cor. NW Sec. 66, Blk. 23, T.&P. Sur.—Total depth 3,600 ft.; underreaming 8¼-in. casing.

PECOS COUNTY

W. M. Bowen's No. 1 University, C NE of Sec. 25, Blk. 16, University Land—Location.

California Co.'s No. 6 Smith, Lease No. 1, 330 ft. from N, 2,405 ft. from W, Sec. 21, Blk. 194, G.C.&S.F.—Moving in material.

California Co.'s No. 8 Smith, Lease No. 1, 330 ft. from S and 3,097 ft. from W, Sec. 23, Blk. 194, G.C.&S.F.—Building rig.

California Co.'s No. 19 Yates, Lease No. 1, Sec. 34, Blk. 194, 1,042 ft. from N and 1,919 ft. from E, G.C. & S.F.—Shut down 628 ft.

California Co.'s No. 20 Yates, Lease No. 1, 1,042 ft. from N, 2,591 ft. from W Sec. 34, Blk. 194, G.C. &S.F.—Shut down 1,102 ft.

California Co.'s No. 1 University-Landrum, Sec. 12, Blk. 18, 330 ft. from S, 1,065 ft. from E, University Land.—Machine.

Cosby's No. 2 Smith, Sec. 24, Blk. 194, 1,650 ft. from N, 330 ft. from E, G.C.&S.F.R.R. Sur.—Total depth 1,400 ft.; 1,000 ft. oil in hole; total depth 1,400 ft.; top pay 1,255 ft.

Cowboy Evans' No. 1 Pecos Valley, 2,310 ft. from NW line, 990 ft. from SW line of Sec. 36, Blk. 3, H.&T.C. R.R. Sur.—Shut down 950 ft.

Crowey's No. 1 Heiner, 2,400 ft. each way from N and E lines Sec. 589, G.C.&S.F.R.R. Sur.—Shut down 1,300 ft.

Clayton Williams' No. 1 Sanford, 160 ft. from NW line, 1,150 ft. from SW line Sec. 55, Blk. 10, H.&G.N.—Show oil 1,390 ft.; drlg. 1,465 ft.

Gibson-Johnson's No. 1 Grace, 330 ft. N, 990 ft. from E Sec. 3, Blk. 179—Shut down 1,785 ft.

Gulf Prod. Co.'s No. 20-B Smith, Sec. 22, Blk. 194, 330 ft. from N. 2,322 ft. from E. G.C.&S.F.—Rigging up.

Gulf Prod. Co.'s No. 25 Yates, 1,015 ft. N and 3,083 ft. E of SW cor. R. C. School Land—Location.

Jayhawk Oil Co.'s No. 1 Price, 1,310 ft. from W, 330 ft. from S, Sec. 6, Blk. 12, H.&G.N.R.R. Sur.—Spudded and shut down.

J. L. Kennedy's No. 1 Roberts, C of Sec. 78, Blk. 3, T.&P.R.R. Sur.—Location.

Sam Kitts and others' No. 1 Sherbino, 330 ft. from N and 990 ft. from W line Sec. 52, Blk. C-4, G.C.&S.F. R.R.—Shut down 1,010 ft.; top salt 975 ft.

Landreth's Prod. Co.'s No. 1 University, 330 ft. from N and W lines of E half of SE Sec. 13, Blk. 18, University Land—Shut down 950 ft.; est. 70,000,000 ft. gas at 950 ft.; burned rig.

Seminole Oil Co.'s No. 1 Pecos Valley, Sec. 22, Blk. 10, 360 ft. from SW, 2,280 ft. from SE, H.&G.N. Sur.—Location.

Marland Oil Co.'s No. 1 University, Sec. 10, Blk. 17, 1,620 ft. from N, 1,020 ft. from E—Top salt 950 ft.; total depth 1,650 ft.; 2,000,000 ft. gas 1,600-08 ft. show oil 1,528 ft.

Mauch & Kroger's No. 1 Holmes, Sec. 5, Blk. 178, T.C. Sur.—Shut down 1,442 ft.

McMan Oil & Gas Co.'s No. 3 Richardson, Sec. 108, 370 ft. N, 300 ft W of SW cor. Runnels County School Land—Shut down 1,270 ft.

McMan Oil & Gas Co.'s No. 4 Tippett, 370 N and 300 ft. W of SW cor. Sec. 108, Blk. 194, CC&SF Sur.—Top pay 1,308 ft.; total depth 1,374 ft.; flowing 9 bbls. per hr.

R. E. Moore's No. 1 Arnold, 1,320 ft. from S and 660 ft. from E lines of Sec. 18, Blk. 1, H.&T.C.R.R.—Shut down 958 ft.; to run casing.

Moncrief et al's No. 1 Tippett, 330 ft. from S, 330 ft. E of C Sec. 36, Blk. 12, H.&G.N.—Location.

W. A. Moncrief et al's No. 2 Tippett, 330 ft. from S and E lines of W half of Sec. 36, Blk. 12, H.&G.N. R.R. Sur.—Location.

Moncrief et al's No. 1 Toborg, 330 ft. from S, 330 ft. W of C of Sec. 539, Blk. 1—Shut down 320 ft.; show oil here in sand.

Moncrief et al's No. 1 University, 1,470 ft. from N and 150 ft. from E Sec. 27, Blk. 18, University Land—Fishing 190 ft.

Moncrief et al's No. 2 University, 330 ft. from N, 2,310 ft. from W line of Sec. 13, Blk. 18, University Land.—20,000,000 ft. gas; drlg. 1,485 ft.

Mid-Kansas Oil & Gas Co.'s No. 31 Yates, 280 ft. W, 1,355 ft. S of NW cor. Sec. 59, Blk. 1, I.&G.N.—Location.

S. B. Owen's No. 1 Masterson, 330 ft. NE of SW line and 330 ft. NW of SE of Sec. 104, Blk. 10, H.&G.N.—Location.

J. D. O'Mara's No. 1 Bennett, Sec. 592, 1,460 ft. from S, 150 ft. from E, G.C.&S.F.—Fishing 875 ft.

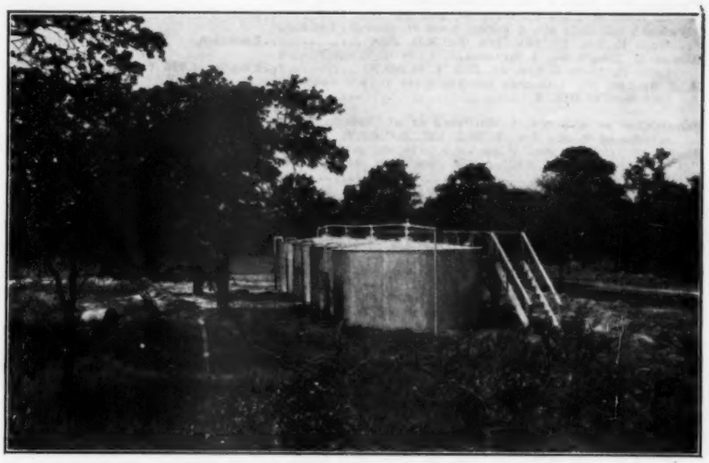
J. D. O'Mara's No. 1 Streety, C of Sec. 1, W. P. Howard Sur.—Drlg. 600 ft.

Pecos Crude Oil Pur. Co.'s No. 3 Pecos Valley, 990 ft. from NW, 1,650 ft. from SW Sec. 22, Blk. 10—Drlg. 1,265 ft.; top salt 1,115 ft.

Perrin et al's No. 1 Eaton, 150 ft. each way from NE and NW lines Sec. 27, Blk. 39, H.&T.C Sur.—18,000,000 ft. gas 1,490-1,502 ft. spraying salt water from behind 8¼-in. casing set at 1,180 ft. shut down 1,502 ft.; 5 3/16-in casing set on bottom with last joint perforated; 18,000,000 ft gas shut in.

Perren's No. 1 Peterson, 150 ft. from NW, 150 ft. from SW Sec. 34, Blk. 10, H.&T.C.—Shut down 1,787 ft.; show oil and gas 1,787 ft.; top salt 990 ft.

Phillips Pet. Corp.'s No. 2 Monroe, 990 ft. from N and E of Sec. 39, Blk. 194, G.C.&S.F. Sur.—Shut down 1,385 ft.; top pay 1,345 ft.; flowing 30 bbls. daily.



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MALONEY *Vapor-Pressure* Flow and Stock Tanks are equipped for operating under approximately 16 ounces of pressure and are painted with Maloney special pearl gray paint to reduce temperature variations. Thus these tanks provide two measures of proven effectiveness in maintaining the gravity of their contents.

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Maloney Features:

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KEYSTONE AMERICAN COPPER STEEL

MALONEY PATENTED BOLTED COPPER-STEEL TANKS

API

MALONEY ALONE

Phillips Pet. Corp.'s No. 1 Southwestern Life Ins., 330 ft. from S, 2,310 ft. from W, Sec. 73, Blk. OW ..... Drlg. 700 ft.
Plymouth Oil Co.'s No. 3 Perry, 1,655 ft. fromN, 1,650 ft. from E, Sec. 29, Blk. 178, T.C.R.R. Sur. ..... Location.
Rowen & Tong's No. 1 McDonald, 1,170 ft. from N and 2,490 ft. from E Sec. 46, Blk. 2, H.&G.N. ..... Fishing 1,565 ft.
B. J. Spikes' No. 1 George Brown, 2,490 ft. SE and SW line Sec. 3, Blk. 3 ..... Show oil 1,180-90 ft.; shut down 2,257 ft.
Schumaker et al's No. 1 Williams et al, 330 ft. N of middle of S line Sec. 1, Blk. 117, G.C.&S.F. ..... Shut down 1,483 ft.
Shell Pet. Corp.'s No. 1 Jackson, 330 ft. NW of SE line and 330 ft. NE of SW line, Sec. 28, Blk. 8, H&TC Sur ..... Drlg. 1,200 ft.; top salt 1,020 ft.
Shell Pet. Corp.'s No. 1-B University, 1,980 ft. from S and 330 ft. from W Sec. 30, Blk. 16, University Land.. Shut down 850 ft.
Shell Oil Co.'s No. 1-C University, 1,661 ft. from N and 1,050 ft. from W, Sec. 31, Blk. 16, University ..... Shut down 750 ft.
Skelly Oil Co.'s No. 2 Tippett, 974 ft. N of No. 1, Sec. 105 ..... Fishing 425 ft.
Southern Crude O. P. Co.'s No. 1 Jackson T-139, Sec. 28, Blk. 3, 1,487 ft. from NE, 2,518 ft. from SE cor..... Location.
Talbot and others' No. 1 Unsicker, 150 ft. each way from NE and SE cor. line of Sec. 25, Blk. 10, H.&G.N. Sur. ..... Material on ground.
Texas-Phillip's No. 1 Campbell, 1,320 ft. from SW, 330 ft. from SE, Sec. 46, Blk. 10, H.&G.N. ..... 1,000 ft. oil in hole; drlg. 1,785 ft.; oil from 1,710-13 ft.; hole fills 250 ft. in 12 hrs.
Taylor-Link's No. 2 University, 330 ft. from N and W of Sec. 31, Blk. —, University ..... Drlg. 1,545 ft.
Tidal Oil Co.'s No. 2 University, 2,970 ft. from N, 2,310 ft. from E Sec. 3, Blk. 18, University Land ..... Drlg. 422 ft.
Tidal Oil Co.'s No. 3 University, 2,310 ft. from S and 1,650 ft. from E Sec. 17, Blk. 20, University Land.... Drlg. 670 ft.
Tower & McKenna's No. 1 University, 330 ft. from S and EL line of Sec. 3, Blk. 17 ..... Drlg. 620 ft.
Transcontinental Oil Co.'s No. 1 University, NE NW SW Sec. 18, Blk. 18 ..... Top lime 1,155 ft.; shut down 4,401 ft.
Trees Oil Co.'s No. 2 Trees, 330 ft. from N and W of SE cor. Sec. 43, Blk. 8, H.&G.N R.R. Sur. ..... Rigging up.
R. D. Webb's No. 2 fee, S 61 degrees E and 3,700 ft. from their No. 1 fee, Sec. 132 ..... Location.
World Oil Co.'s No. 1 University, 330 ft. from N and 2,310 ft. from E of Sec. 31, Blk. 16, University Land.. Spudding.
World Oil Co.'s No. 1-B University, 330 ft. from N and E Sec. 13, Blk. 18 ..... Drlg. 610 ft.

PRESIDIO COUNTY

L. C. Brite's No. 4 Brite, 271 ft. from N, 1,188 ft. from E Sec. 245, Blk. 4 ..... Shut down 670 ft.
Eastland Oil Co.'s No. 1 Tootle, C Sec. 17, Blk. 1, D.P. R.R. Sur. ..... Spudded; shut down.
Phillips Pet. Co., Empire G. & F. Co., Delmar Co. and C. E. Miller's No. 1 Tootle Est., C NE Sec. 75, Blk. 3, D.&P.R.R. Sur. ..... Slight oil show and gas at 2,767 ft.; show oil at 2,767 ft.; drlg. 3,755 ft.
T. P. Coal & Oil Co.'s No. 1 Bogel, 330 ft. S and W, Sec. 83, Blk. 3, G.H.&S.A. ..... Shut down 390 ft.

REAGAN COUNTY

Big Lake Oil Co.'s No. 1-C University, 2,598 ft. S and 250 ft. W of NE cor. Sec. 1, Blk. 2, University Land.. Top pay 2,803 ft.; 1,000 ft. fluid in hole; shut down 3,330 ft.
Kemrow Co.'s No. 1 Sawyer Cattle Co., 1,320 ft. from N and 1,980 ft. from E line Sec. 5, J. G. Robinson Sur ..... Location.
Skelly's No. 5 University, 1,392 ft. from W, 2,970 ft. from S line of Sec. 33, Blk. 3, University Land ..... Location.

REEVES COUNTY

Exploration Co.'s No. 1 A. A. Kinney, 1,500 ft. W of NE cor. Sec. 26, Blk. C-18, Public School Land, elev. 2,847 ft. ..... Shut down 2,900 ft.; pipe out.
H. T. Hansford's No. 1 Williams, 150 ft. from S and W Sec. 17, Blk. 6, H.&G.N. ..... Spudded and shut down.
Earl Fenby's No. 1 Brooks, 1,980 ft. N and 660 ft. W Sec. 16, Blk. 59 ..... T.D. 325 ft.; fishing.
Southern Crude O. P. Co.'s No. 1 Kloh-Rumsey, 2,310 ft. N and W SE cor. Sec. 23, Blk. 51 ..... Hole full water 1,275 ft.; cem. 12½-in. casing 1,463 ft.; shut down 1,535 ft. for orders; pipe parted, water broke in; skidded 75 ft. west; running 8-in. casing; shut down 1,200 ft.
David R. Thompson's No. 1 A. A. Eddins, Sec. 9, Blk. C-1 ..... Shut down 5,658 ft.; fishing 8-in. casing.

RUNNELS COUNTY

Herbert Oil Co.'s No. 1 Currie, 1,866 ft. SE of NW line, 335 ft. SW of NE line Gray Carroll Sur..... Straightreaming 8-in. casing 2,420 ft.
Independent Oil & Gas Co.'s No. 1 Will Rollwitz, 330 ft. S and W of NE cor. S half M. Salinas Sur. No. 20½.. Drlg. 4,210 ft.
McLean et al's No. 1 G. W. Clayton, 150 ft. N line, 270 ft. from W line Sec. 135, E.T.R.R. ..... Shut down 1,185 ft.
Vacuum Oil Co.'s No. 4 McMillan, 555 ft. S and 717 ft. W of NE cor. Lot 22, Domingo Diaz Sur., No. 532.... Location.

SCHLEICHER COUNTY

Fort McKavet's No. 1 Tisdale, Sec. 1,499, River Section, 3,630 ft. from S, 150 ft. from W ..... Set 6-in. casing 3,023 ft.; shut down 3,500 ft.
Interstate's No. 1 Whitten, 1,320 ft. from N and W Sec. 35, Blk. LL, T.C.R.R. Sur. ..... Shut down 4,925 ft.; hole slopped over with oil at 4,925 ft.; made one good flow.
Underwood's No. 1 Tisdale, 2,095 ft. N and 1,185 ft. from E Sec. 74, Blk. LL ..... Spudded and shut down.

SCURRY COUNTY

Camp Spring Oil & Ref. Co.'s No. 3 Guinn, 1,300 ft. from S, 300 ft. from E Sec. 12, Blk. 3, H.&T.C.R.R. Sur. ..... Shut down 320 ft.
Cottingham & Briscoe's No. 1 Trees, C SE Sec. 147, Blk. 97 ..... Drlg. 405 ft.
I. B. Mimms et al's No. 1 J. J. Koonsman, Sec. 216, Blk. 2, H.&T.C. Sur ..... Spudded and shut down 300 ft.
G. E. Dickman and R. B. Pender et al's No. 1 F. C. Davis, 1,000 ft. N and 1,770 ft. W of SE cor. of Sec. 275, Blk. 2, H.&T.C. Sur. ..... Fishing 3,700 ft.
Texas-Canadian's No. 1 Moore, 1,320 ft. from S and W Sec. 379, Blk. 97 ..... Location.

SUTTON COUNTY

Phillips Pet. Co.'s No. 1 A. G. Holman, 2,310 ft. S and 330 ft. W NE cor. Sec. 25, G.C.S.D.&N.G.R.R. Sur. .... Fishing 6,635 ft.; making 1,500,000 ft. gas 6,635 ft.
L. G. Priest's No. 1 Allison, 1,320 ft. N and E of SW cor. Sec. 52, Blk. A, T.&P. Sur. ..... Set 15-in. casing 530 ft.; shut down 3,250 ft.

TAYLOR COUNTY

Dunnigan & Shell Pet. Corp.'s No. 1 Davidson, 2,641 ft. S and W of NE cor. S half of W. R. Willis Survey No. 132 ..... Drlg. 705 ft.
V. B. Jameson's No. 1 Webb, 1,170 ft. S and W of NE cor. Sec. 46, Lunatic Asylum Land ..... Drlg. 4,925 ft.; show oil 4,917 ft.
Magnolia Pet. Co.'s No. 1 Hammer ..... Shut down 3,009 ft.
Mid-Continent Oil & Gas Co.'s No. 1 Cody, 330 ft. N and E of SW cor. M. E. Cody 116.7-acre tract, Guadalupe County School Land ..... Shut down 2,260 ft.
of SW cor. Sec. 20, Blk. 19, T.&P.R.R. Sur. ..... Drlg. up pipe; total depth 2,475 ft.

TERRELL COUNTY

Big-Bend Oil Co.'s No. 1 Bassett, C NW Sec. 166, Blk. D, M.K.&T.E.R.R. Sur. ..... Drlg. 1,080 ft.
Keck Pecos Trust Co.'s No. 1 Hamilton, C Sec. 6, Blk. D-7, E.L.&R.R. Sur. ..... Drlg. 2,620 ft.
Mrs. J. B. Mc. Bee's No. 1 Sam Belt, C Sec. 78, Blk. D-7, E.L.&R.R. Sur. ..... Shut down 880 ft.
Milham Exploration Co.'s No. 1 Bassett, Sec. 76, Blk. Y, W. E. Robertson Sur. ..... Cem. 6⅝-in. casing 3,986 ft.; drlg. 5,290 ft.
Woodley & Jones' No. 1 Pankenham, C SE NW Sec. 43, Blk. B-2, C.C.S.D.&N.G.R.R. Sur. ..... Shut down 625 ft.

TERRY COUNTY

Kingsland O. P. Co.'s No. 1 Brownfield, C NW SW SW Sec. 7, Blk. 1-A, E.L.R.R. Sur. ..... Fishing bailer 5,080 ft.

TOM GREEN COUNTY

Cannon and others' No. 1 Rust, 990 ft. S, 990 ft. W of NE cor. of Sec. 745 ..... Rig.
Fitzgerald & Taliaferro's No. 1 Bennett, C SW Sec. 1,628, E. H. Ringer ..... Shut down 1,955 ft.
Fuhrman Pet. Co.'s No. 1 Wardlaw, 2,650 ft. from N and E of Sec. 6, Blk. 17, H.&T.C. ..... Location.

UPTON COUNTY

Cranfill & Reynolds' No. 1, 220 ft. each way from N line, Sec. 15, Blk. 5, H.&T.C. Sur. ..... Location.
Dixie Oil Co.'s No. 30 Burleson, 990 ft. from N and 2,640 ft. from E Sec. 2, John Nidever ..... Top pay 2,035 ft.; total depth 2,045 ft.; swabbing 155 bbls. in 9 hrs.
Humble Oil & Ref. Co.'s No. 12 Ricker, 5,008 ft. from NW, 150 ft. from NE line, Denton Survey ..... Location.
Prairie Oil & Gas Co.'s No. 1 Quattera, 330 ft. from S and 1,980 ft. from W, C. C. Dewitt Sur. ..... Drlg. 795 ft.

VAL VERDE COUNTY

Independent Operators' No. 1 Whitehead, SE SE Sec. 30, Blk. 4, I.&G.N. Sur., elev. 1,175 ft. ..... Shut down 4,850 ft.
O. O. Owens' No. 1 Mills, Sec. 128, Blk. 1, I.&G.N. Sur., elev. 2,130 ft. ..... Gas sand 2,491-2,520 ft.; tested 125,750 ft. gas; reset 8-in. 2,511 ft.; cleaning out 4,210 ft.
Producers Oil Co. et al's No. 1 Everett Bros., 2,310 ft. S and 330 ft. E of NW cor. Sec. 40, Blk. DB, C.C.S.D.&R.G.N.G. Sur. ..... Shut down 2,510 ft.
Dyar Bros. et al's No. 1 Wilson, 6,830 ft. N NE cor. Sec. 1, T.&P. Sur., thence 1,680 ft. E Sec. 115, Blk. E, G.C.&S.F. Sur. ..... Shut down 3,400 ft.
Valvert Oil Corp.'s No. 1 Bassett, C NE Sur. 47, Blk. Y.. Set 15½-in. casing 767 ft.; set 10-in. casing 1,510 ft.; shut down 3,900 ft.

WARD COUNTY

Alpine Oil & Gas Co.'s No. 1 Boogher, 1,980 ft. SE and NE Sec. 11, Blk. 5, H.&T.C. ..... Drlg. 560 ft.
Atlantic et al's No. 1 Dorr, 1,730 ft. S, 990 ft. W, Sec. 2, J. Howe ..... Location.
C. C. Dorr et al's No. 1 Costley, 1,722 ft. from NW, 990 ft. from NE line of Sec. 2, Jos. Howe Sur ..... Location.
Cranfill & Reynolds' No. 1 Robeson, 220 ft. NW and NE Sec. 15, Blk. 5, H.&T.C. ..... Moving in.
Continental Oil Co.'s No. 2 Scarcy, 330 ft. S and W Sec. 81, Blk. A, G.M.M.B.&A. Sur. ..... Drlg. 885 ft., red shale.
Gulf Prod. Co.'s No. 2 Hutchins, 330 ft. N and E Sec. 7, Blk. O ..... Top salt 1,240 ft.; top pay 2,529 ft.; 2,000,000 ft. gas; 65 bbls. of oil daily; total depth 2,743 ft.; oil show 2,733-34 ft.
Barstow Oil & Gas Co.'s No. 1 Monroe, Sec. 50, Blk. 33.. Spudded and shut down.
Gulf Prod. Co.'s No. 6 O'Brien, 2,310 ft. from N, 330 ft. from E Sec. 20, Blk. F, G.M.M.B.&A. Sur. ..... Top salt 1,076 ft.; drlg. 2,210 ft.
Gulf Prod. Co.'s No. 2 Wristen, 220 ft. NW, 1,470 ft. SW Sec. 18, Blk. 5, H.&T.C. ..... Top salt 725 ft.; top pay 2,417 ft.; total depth 2,482 ft.; shot 200 qts. 2,416-68 ft.; flowed 115 bbls. daily.
E. B. Lovelace et al's No. 1 Redman, 1,980 ft. NE of SW line and 1,980 ft. SE of NW line, Sec. 162, Blk. 34, H.&T.C.R.R. ..... Total depth 760 ft.; fishing.
Penn & Atlantic's No. 1 Pecos Mercantile Co., Sec. 16, Blk. 34 ..... Total depth 1,545 ft.; underreaming 8¼-in. casing 1,470 ft.
Shipley et al's No. 1 Monroe, 330 ft. SE SW Sec. 3, Blk. 1 ..... Shut down 517 ft. for casing.

WINKLER COUNTY

American Maracaibo Co.'s No. 2 Hendricks-B, 1,980 ft. N and 1,650 ft. E of SW cor. Sec. 28, Blk. B-5 ..... Cem. 12½-in. casing 170 ft.; top lime 2,599 ft.; top pay 2,731 ft.; 2,000 ft. oil; increase 2,875 ft.; show water 2,926-31 ft.; running 6-in. csg. 2,945 ft.; total depth 3,416 ft.; plugging back to 3,000 ft.; shut down.
Atlantic Oil Prod. Co.'s No. 6 Hendricks, 330 ft. S, 2,310 ft. W of NE cor. Sec. 44, Blk. 26, School Land ..... Rigging up rotary.
V. T. Bolin's No. 2 Brown et al, 2,000 ft. S and W of NE Sec. 4, Blk. B-5, Public School Land ..... Top salt 1,300 ft.; total depth 2,420 ft.; shut down for 8-in. casing.
Cranfill & Pickrell's No. 2 Hutchins, 2,310 ft. S and W Sec. 47, Blk. 26 ..... Drlg. 2,338 ft.
Gulf Prod. Co.'s No. 2-B Lum Daugherty, 2,310 ft. from N and 1,320 ft. W Sec. 22, Blk. 26, P.S.L. ..... Drlg. 1,733 ft.
Humble Oil & Ref. Co.'s No. 13-C Hendricks, 440 ft. from S, 330 ft. from W Sec. 10, Blk. B-12. ..... Cem. 6-in. casing 2,550 ft.
Humble O. & R. Co.'s No. 1-D Hendricks, 330 ft. from S, 2,310 ft. from W of Sec. 41, Blk. 26 ..... Building rig.
Kermit Dev. Co.'s No. 1 Carter, 640 ft. S, 2,227 ft. W Sec. 27, Blk. B-3 ..... Shut down 400 ft. to cure title.
Liner Drlg. Co.'s No. 1 Campbell, 330 ft. from N and E cor. Sec. 2, Blk. B-5 ..... Total depth 1,240 ft.; underreaming 8-in. casing 1,300 ft.
Magnolia Pet. Co.'s No. 2 Scarborough, 1,620 ft. N and 990 ft. W SE cor. Sec. 1, Blk. C-22 ..... Top salt 1,125 ft.; gas show 2,225 ft.; running 8⅝-in. casing 2,225 ft.; drlg. 2,979 ft.; flowing 130 bbls. daily.; top pay 2,850 ft.; total depth 3,062 ft.; flowing 140 bbls. daily.
Continental Oil Co.'s No. 1 Morton-A, 330 ft. N and E of Sec 16, Blk. B-12 ..... Drlg. 2,638 ft.
Shell-Llano Oil Co.'s No. 7 Scarborough, 1,020 ft. from N and W Sec. 2, Blk. 77 ..... Drlg. 775 ft.
Skelly Oil Co.'s No. 3 Daugherty, 330 ft. W, 1,650 ft. S Sec. 22, Blk. 26, Public School Land ..... Top lime 2,440 ft.; cementing 8-in casing 2,469 ft.; recement 6-in. casing set 2,505 ft.; drlg. 2,525 ft.
Skelly Oil Co.'s No. 4 Daugherty, 990 ft. S, 330 ft. W Sec. 22, Blk. 26 ..... Top lime 2,476 ft.; 3,000,000 ft. gas 2,665-75 ft.; shut down 2,940 ft.; flowing 2-in. stream salt water and 50 bbls. oil.
Skelly Oil Co.'s No. 5 Daugherty, 1,326 ft. W, 2,310 ft. S Sec. 22, Blk. 26 ..... Location.
Southern Crude O. P. Co.'s No. 4 Hendricks T-88-CX, 1,375 ft. N, 330 ft. E Sec. 21, Blk. 26 ..... Top lime 2,417 ft.; cem. 8-in. casing 2,529 ft.; drlg. 2,755 ft.
Southern Crude O. P. Co.'s No. 2 Hendricks T-89-L, 440 ft. from N and 1,320 ft. from W Sec. 15, Blk. B-12... Drlg. 1,870 ft.
Southern Crude O. P. Co.'s No. 3 Hendricks T-90, 2,310 ft. S and E of Sec. 47, Blk. 26 ..... Drlg. 2,251 ft.; top lime 2,242 ft.

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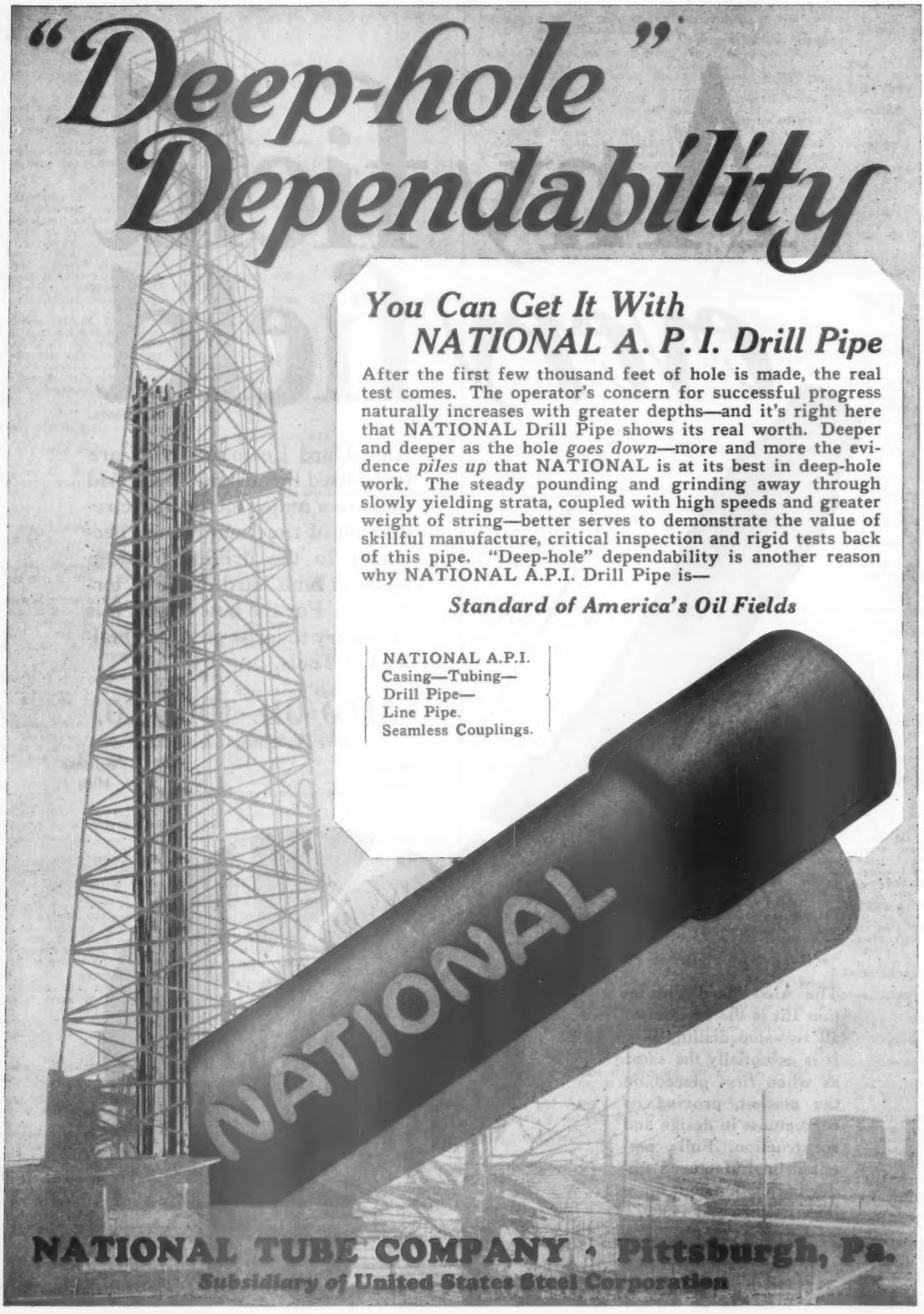


NATIONAL TUBE COMPANY · Pittsburgh, Pa.
Subsidiary of United States Steel Corporation

CENTRAL WEST FIELDS

(Continued from Page 68)

1,231 feet and the well will be abandoned according to late advice. The Texana Oil Co. drilled to a total depth of 2,185 feet in No. 1 on the John Ford farm, Lot 9, Clay Township, but failed to find anything of value and moved the drilling tools, with expectations of returning later on and drilling the well to a much greater depth.

The Gem Oil Corp.'s No. 3, 330 feet from the north line and 770 feet from the west line of the S. W. and W. S. Ferris, SE Section 5, Barton Township, Gibson County, proved dry at 1,246 feet. The Lamberton & Lamberton estate abandoned No. 9 on the McDonald farm, Section 7, Washington Township, same county.

L. G. Gee and others abandoned No. 2 on the Asel Colbut farm, Section 21, Veale Township, Daviess County. S. H. Parrott also abandoned Nos. 1 and 2 on the T. Ragsdale heirs farm, and Nos. 1, 2, 3 and 4 on the J. M. Peak farm; all in Section 21, same township.

Simpson's Report

Indiana oil and gas news compiled by Paul F. Simpson, state gas supervisor, department of conservation, division of geology, Indianapolis, Ind.:

Adams County—George S. Lacknett and others are starting the third well on the Otto Baker farm.

Daviess County—Kern & Lee are drilling at a depth of 425 feet, one-half mile west of Hudsonville. L. G. Gee and others got a 1-bbl. well in the Frank Gaither No. 7 in Section 21, Veale Township. It passed through the sand at 976-81 feet, and went to 1,000 feet before being abandoned.

Gibson County—William Bell Co. are reported as drilling near the old Mount Olympus Pool. The S. M. Cantrell well, being drilled in Section 2, Columbia Township, by C. E. Wohmer and others, is down 610 feet. The Indiana Oil & Gas Corp. has moved tools to the Gudgell farm in Section 25, south of Oakland City. The Shell Petroleum Corp. reported the largest gas well found to date in southern Indiana, in their second well on the Ralph M. Onyett farm, Section 22, Columbia Township. It produced 11,700,000 feet from a depth of 1,475½ feet, at a pressure of 600 pounds. (This well was credited to the Roxana Petroleum Co.) The Texana Oil Corp. is fishing at 960 feet in its second well on the William Volkman lease in Section 32, Columbia Township. Rogers and Randall are planning to drill to the west of their wells on the John D. Williams farm. They are also starting on their fourth well on the latter farm.

Henry County—Ora Ford will drill three more wells for the Knightstown Natural Gas Co.

Knox County—The Shell Petroleum Corp. is drilling on the John Emmison farm in Survey 11, Johnson Township. The well is down 1,350 feet.

Lawrence County—It has been reported that a large acreage has been leased around Leesville, at the eastern edge of the county, and that a well will be started north of the town soon to test the structure coincident to the fault which runs close to and parallel to the county line. Though some gas and a few showings of oil have been obtained along the west side of this fault, the last test, that was on the Fox farm in southeastern Monroe County, was a failure. The oil showings were from the Corniferous at approximately 600 feet; the Trenton has never been tested here.

Morgan County—A well will be started on the Bill Moon farm near Mooresville.

Perry County—J. H. McClurkin and others are starting to drill two wells to test at least four sands. One is on the Frank J. Delaise farm in Section 25, Clarke Township; the other is on the Frank Lucke farm in Section 31, Anderson Township. The J. W. Jarigoe well in Section 14, Troy Township, drilled by Stinson Brothers, was abandoned and plugged.

Pike County—The Bement Gas Co. is reported as having drilled a 20-bbl. well a mile southeast of the Della Kime wells, thus extending the field in that direction. The oil came from the Rumble sand at 980 feet. Harry Rischer is moving a rig to the John Arnold farm. Washington Township, where he will drill an offset to the Aaron George wells. The Murphy Oil Co. is down 800 feet in their No. 1 on the J. R. Brenton lease in Location No. 21, Clay Township. The Texana Oil Co. has moved their rig from their deep test on the John Ford farm in Location 9, Clay Township, after having gone 2,185 feet, but they intend to come back and drill deeper. The Bement Gas Co. has completed their fourth well on the Aaron George lease in Section 29, Washington Township. It produced 2,000,000 feet from a depth of 1,107 feet. The No. 3 well made 4,000,000 feet from 1,140 feet, while the No. 2 was dry at 1,120 feet. Bell Brothers are down 1,000 feet in their No. 1 James Hoagland, Section 31, Clay Township. The Bement Gas Co.'s No. 3 on the Della Kime farm was making 36 bbls. natural when shot, but the casing was shot in two and may have to be drilled through. (Tools are also reported lost in the hole.) The Bement Gas Co.'s first well on the adjoining John McAtee farm, Location 16, Clay Township, is down 960 feet. Another rig is to be moved in immediately to drill a second well on the same farm. The Shell Petroleum Corp. abandoned their well on the William Miley farm, Section 10, Logan Township, which was dry at 1,560 feet. An independent company is reported to be moving a rig on the Verner Preston farm. The Shell Petroleum Corp. is drilling a test just west of Hosmer. The drill reached a depth of 1,351 feet in the well drilled by H. C. Darby and others, on the George Stewart farm, in Section 23, Logan Township. The well was plugged back to 1,338 feet where it is being cleaned out.

Spencer County—Richards and others are drilling a well near the Strassell lease in Ohio Township. Libb and others abandoned the No. 1 William Arnold in Section 17, Huff Township. Ellis & Young got a crooked hole on the Henry Bretz heirs farm and skidded the rig. This is in Section 34, Ohio Township. Sharp Randall's No. 1 Raymond Bretz in Section 3, same township, was plugged. E. M. Treat & Co. got 25 bbls. initial in their No. 2 George Cissna in Section 35, Ohio Township. The sand was found at 1,276-85 feet. A well is being drilled on the Grass farm in Section 11, Huff Township, offsetting the Ray and Charlton wells. Ellis & Young are drilling at a depth of 165 feet on the Hoffman farm. Brandenburg and others are drilling on the Truman Lemmon lease in Grass Township, but have been shut down for repairs after going 900 feet. Randall & Sharp got 15 bbls. initial from their second well on the Leo Strassell lease, in Section 3, Ohio Township. The sand was shot at 1,291-96½ feet.

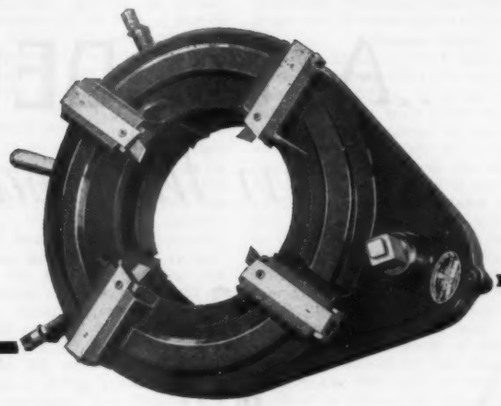
Steuben County—N. E. Masters and others are planning to drill several tests in the southern part of the county. Their first well will be started in a few days near Hudson and Ashley, with Smithson Brothers of Marion, doing the drilling. It is rumored that leases are being taken in several of the other counties along the Michigan line, but no other locations for tests have yet been made. This activity is possibly due to the proximity of the Michigan Field.

Sullivan County—Bailey and Seitz got a dry hole at 825 feet in their first test on the J. R. Johnson farm, in Section 4, Gill Township.

ILLINOIS

The Dupo Field, in Sugar Loaf Township, St. Clair County, Illinois, is the most active in Illinois. This is a shallow drilling proposition and the oil comes from the Trenton Rock which is much shallower in St. Clair County, Illinois, than in the Lima and Indiana Fields.

The best of the late completions in the Dupo Field is the Ohio Oil Co.'s No. 2 on the Hull-Weihl property, NE cor.. Section 28, Sugar Loaf Township, which produced an initial of 160 bbls. at a depth of 491-528 feet; Keller and others' No. 1 Robert Rudolph lot, SE, Section 21, with an initial of 90 bbls. from 501-65 feet; Majestic Oil Co.'s No. 1 Lucia Carr



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$5,000,000
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EXCHANGE BANKS OF TULSA

The Exchange National Bank — Exchange Trust Company

lot, SE, Section 21, produced 100 bbls. in 24 hours from a depth of 492-545 feet; Sugar Loaf Oil Co.'s No. 2 William Breuer lot, SW cor. NW SE, Section 28, produced 80 bbls. initial from 470-552 feet.

In the same field, the H. & M. Operating Co.'s No. 1, on the J. Bonhamme lot, SE, Section 21, produced 75 bbls. from 487-550 feet. Same company's No. 1 A. F. Smallenberger, SE, Section 21, produced 25 bbls. from 498-558 feet. Muckerman & Hersig's No. 1, on the Smallberger lot, same section, produced 25 bbls. from 497-540 feet. G. R. Hironimus drilled No. 1 on the W. K. Melton No. 2 lot, SE, same section, with an initial pumping of 30 bbls. from 492-545 feet. Charles E. Knox and others' No. 1, on the Smith-Criswell lots, SE. Section 21, produced 20 bbls. at 496-549 feet.

In Lawrence Township, Lawrence County, the Big Four Oil & Gas Co. drilled deeper its old No. 14 on the E. J. Sneed, SE, Section 16, from the Buchanan sand at 1,294 feet to the Kirkwood sand at 1,658 feet, resulting in a 5-bbl. pumper. There are still other sands below that are productive in this county, such at the Tracy, McCloskey, Green, Henry and Pepple sands, the Tracy and McCloskey showing best in the field.

Silurian Oil Co.'s No. 5, Mary E. Liston farm, NW, Section 3, Honey Creek Township, Crawford County, pumped an initial of 45 bbls. at a depth of 1,098 feet. Selby-Cisler Producing Co.'s No. 51, Claudie O. Reavill farm, same township, pumped 4 bbls. at 972 feet.

CANADIAN FIELDS

(Continued from Page 62)

LSD, has derrick up. Calmont's No. 10, same LSD, has cellar dug. Shareholders of Dallas Oil Co. which originally held the 40-acre tract in Section 20-19-2w5, have approved the merger with Calmont Oils, Ltd.

East Crest Oil Co.'s No. 1, LSD 5-6, Section 16-19-2w5, is reported drilling at 4,190 feet. Markers in the shale indicate the test is about 25 feet off the deep lime. East Crest's No. 2, LSD 4, same section, has spudded in.

Aerolite Oil Corp.'s No. 1, LSD 4, Section 3-19-2w5, has derrick up. Homestead Oils' No. 1, LSD 5, Section 16-19-2w5, is at 3,115 feet, drilling 10-inch hole after setting 12½-inch casing at 2,820 feet. Some gas was struck at 2,830 feet. Sunlight's No. 2, same LSD, is rigging up for a cable tool test.

Commonwealth Petroleums' No. 2, LSD 7, Section 9-19-2w5, is drilling at 2,700 feet after getting the Dakota sand at 2,480 feet. A small gas show was met in the Dakota. Structure Oil & Gas Co.'s No. 2, LSD 6, Section 12-20-3w5, is reported working on derrick. F. John Sur of Los Angeles is looking over the structure acreage in the Turner Valley in connection with further location. Mill City Petroleums, Ltd., recently organized to take over the interests of Mill City Oils, Ltd., is arranging for three tests on its acreage in Section 4-19-2w5.

North End Turner Valley

In the north end of Turner Valley, Spooner Oils' No. 2, Section 24-20-3w5, is reported drilling nearly 800 feet in the lime at 5,870 feet, and making about 10 feet a day in a very hard formation. Spooner's No. 3, same section, is working on derrick.

Freehold Oil Corp.'s No. 1, SW Section 3-21-3w5, is making new hole at 2,900 feet after drilling through 700 feet cemented to overcome caving. The well is making about 2,000,000 feet of gas. Model Oils' No. 1, LSD 8, Section 22-20-3w5, is resuming at 6,236 feet after running 8-inch casing. Oil apparently coming from a fracture in the Dalhousie sands is standing 500 feet in the hole. Anaconda Oils' No. 1, LSD 16, same section, is reported spudding in. Calmont Oils' No. 5, LSD 3, Section 34-20-3w5, is drilling at 1,745 feet. This test recently made a record run of 515 feet in 24 hours.

Vanberta Oils' No. 1, SW quarter Section 35-19-3w5, has derrick up and casing on the ground, and will spud in this month. Outwest Petroleums' No. 1, LSD 5, Section 35-19-3w5, is at 2,810 feet and running casing at 2,788 feet. A show of crude was struck at the Dakota-Kootenay contact. The test is expected to get the lime around 3,700 feet.

More Rapid Progress

A survey of Turner Valley operations shows that, in addition to an unprecedently large number of drilling tests, unprecedently rapid progress is being made. With more powerful drilling outfits and a more dependable knowledge of the formations and drilling conditions to be expected, the difficulties and delays experienced by the pioneer operators have been pretty well avoided in these newer tests. In several instances the first 2,000 feet have been made in a few weeks, and wells started in May and June are in some cases around the 3,000-foot mark. Nine wells now drilling in the deep lime may be rated as producers within a month or six weeks. Of these, Foothills' No. 2 is being given a production test, and McLeod's No. 4 is a 120-bbl. producer being drilled deeper for a thorough test of the lower lime. Other tests in the central section now in the lime include Calmont's No. 1 and Royalite's Nos. 19 and 21. In the south end, Home's No. 3 and Northwest-Associated's No. 1 are close to big production, while in the north end Spooner's No. 2 has a fair production in the lime and is being drilled deeper. All these tests are definitely assured of some production.

Foothill Areas

Extensive testing is under way in the foothills areas, with, so far, no conclusive results. Two tests have reached the lime, Imperial Oil's No. 1 Highwood in the Highwood district and Wabash Oils' No. 1 in the Morley Reserve area. Imperial's No. 1 Highwood, ISD 3, Section 36-18-3w5, is reaming out to enlarge the hole in the shale, and apparently planning for a very deep test. The drill in this hole entered the lime at 4,226 feet and is down 4,475 feet. At something more than 200 feet in the lime the shale formation overlying the lime was apparently repeated, indicating a possible fault. The formation at the bottom of the hole caved badly, and the hole is now being enlarged about 4 inches to provide a larger circulating system. Oil showings were encountered just before the cavings occurred. Hudson's Bay-Marland Oil Co. is rigging up for a test on the Highwood structure, and is reported ready to spud in. Cable tools will be used.

In the Wildcat Hills area, Warner Oils' No. 2, Section 28-18-3w5, is reported fishing for lost bit at 1,300 feet. When the fishing job is finished, 15½-inch casing will be run. The test encountered a show of 48 gravity crude at 960 feet and a small flow of wet gas at 1,125 feet, both in the Dakota horizon. A heavier gas flow at 1,250 feet is making about 250,000 feet a day. The test got the top of the Dakota sands at 345 feet, and the log indicates the top of the lime will be found around 3,000 feet.

In the Sarcee Reserve, Sarcee Oil & Development Co. is conducting structure tests. No. 1 shallow test is rigging up in Township 23-4w5 in the northwest part of the reserve.

Arrangements have been made whereby Imperial Oil, Ltd., will drill No. 1 well for Calgary Development & Producing Co. in the south end of the Waite Valley area. Location has been made in LSD 10, Section 21-19-3w5, and cable tools will be used, the test to spud in next month. The location is east of Innerford's No. 1.

On the Ghost River structure, Mogul Oils' No. 1, LSD 1, Section 19-27-6w5, has derrick up. This structure is west of Calgary and north of the Morley Reserve.

In the Aldersyde district, south of Calgary, Twin Dome Oils' No. 1, N half Section 16-21-28w4, is rigging up for a cable tool test about 5 miles northeast of Ranchmen's No. 1.

Skiff Field

In the Skiff Field, southern Alberta, an official test of the production of Devenish Petroleum's No. 3, LSD 11, Section 11-5-14w4, has been completed by William Calder, government petroleum engineer. The test showed an actual pumping production of 36 bbls. a day of 19.2 gravity crude, approximately the same as the figures of Imperial Oil, Ltd., which estimated the well a 30 to 35-bbl. producer. In the same field, Lion's Gate Oil Co.'s No. 1, LSD 1, Section 33-6-15w4, has derrick up.

The Milk River area is a definitely proven gas field following the drilling by Capitol Oil & Gas Co.'s No. 1-A, LSD 16, Section 32-1-12w4, of a 10,000,000-foot producer. The flow was encountered at 1,725 feet, with heavy pressure. Casing has been run to 1,727 feet to temporarily shut off the gas, and the test is drilling around 1,760 feet. It will be carried to the Sunburst sand at around 1,850 feet and possibly to the Ellis between 2,000 and 2,100 feet. Before encountering the big gas flow the drill passed through a 2-foot sand with pronounced oil showings. The Capitol gas strike considerably extends the gas producing area east of Coutts. Some three years ago a test by Imperial Oil at Erickson Coulee, 2 miles west and 3 miles south of Capitol's No. 1-A got a heavy gas flow at 2,700 feet; while the Rogers-Imperial gasser, 12 miles east, has a shut-in gas production estimated from 30,000,000 feet up. Commonwealth Petroleum's No. 1, LSD 9, Section 9-3-15w4, on the same structure, is drilling at 2,105 feet in the bottom of the Colorado shale, and is expected to get the lime around 2,700 feet. Commonwealth's No. 3 commercial test is being located on the Blood Reserve structure, after thorough testing of the structure by core drilling. Location will be about 7 miles west of Lethbridge.

West of Coutts, Hol-Gar Petroleum Co.'s No. 1, LSD 1, Section 11-1-17w4, is rigging up. Ko-Tops Oils' No. 1, SE Section 2-1-17w4, is rigging up. Madison's No. 3 in the north end of the Turner Valley is reported working on derrick, to spud in early in September.

Champion District

In the Champion district, Hudson's Bay-Marland Oil Co.'s No. 1, LSD 2, Section 9-16-23w4, has been held up by cavings and is running 10-inch casing to 2,200 feet. Hudson's Bay-Marland's Lomond test, Section 23-17-18w4, is drilling in cement at 970 feet, after cementing back several hundred feet to sidetrack lost tools.

British interests represented by Campbell M. Hunter have secured extensive acreage on a structure near Taber, which is thought to be independent of the Skiff and Chin Coulee structures. No. 1 location has been made in SW Section 11-10-17w4, on the Old Man River, 3 miles northwest of Taber. Heavy duty rotary equipment is being unloaded for the test. Filings were made on more than 100,000 acres.

Western Alberta Oil Co. has been incorporated under Manitoba charter with offices at Winnipeg to develop acreage on the Highwood structure in the Alberta foothills south and west of the Turner Valley Field. Officers are: President, William Martin, Jr., Winnipeg; vice president, George W. Matthews, Winnipeg; directors, A. T. Mewburn, Calgary; Glen M. Ruby, Vancouver; P. V. Torrance, Winnipeg. The company holds 960 acres on the Highwood structure, including E half NE Section 7-16-2w5; LSD's 11 to 16 Section 7-17-2w5; W half Section 5-18-3w5 and E half Section 9-18-3w5. Contract has been let for 3,500 feet of drilling to be supervised by officers of the Nordon Corp.

Alberta Superior Oils, Ltd., is being incorporated with office at Edmonton to merge the interests of a number of companies holding acreage in Alberta. These companies include Spa Oils, Ltd., Edmonton Syndicate, Bell Syndicate No. 2 and Aladdin Oils, Ltd. Directors include Col. G. B. McLeod, W. W. Prevey, Arch McGavin, H. B. Armitage, W. H. Pearson and A. C. MacDougal. The company holds a 30-acre tract within a half mile of Home Oil Co.'s No. 2 producer in the south end of Turner Valley, where No. 1 test will start drilling in September. Some 3,000 acres are distributed over the Highwood, Sinclair, Waite Valley, Beaver Dome and Wainwright structures.

Ribstone Field

In the Ribstone Field, east central Alberta, Meridian Oil Co.'s No. 1, LSD 1, Section 16-45-1w4, is being put on the pump. Trouble with sand was overcome by filling the bottom of the well with coarse gravel, and the oil is now coming free from sand. Before the sand trouble developed production from the horizon at 1,838 feet was rated around 100 bbls. a day. Two additional wells will be drilled on the Meridian acreage, one for Meridian Oils, Ltd., and the other for Imperial Oil, Ltd., under agreement with the Meridian company. Meridian's No. 2 will be located 1,000 feet west of No. 1, and the Meridian-Imperial test will be drilled about 1,000 feet south of No. 1. Cable tools now owned by the Meridian company in the field will be used, both tests to spud in before the end of September. London-Ribstone Syndicate's No. 2, LSD 5, Section 22-43-3w4, is moving in rotary equipment.

Wainwright Field

In the Wainwright Field, Admiral Oils' No. 1, LSD 16, Section 36-44-7w4, cemented 8½-inch casing on top of the sand at 2,063 feet after coring to 2,073 feet. Testing of the well indicated slight oil production and a lot of salt water, and it will probably be carried to a lower horizon. Anwood-Dome's No. 2, LSD 5, Section 18-44-6w4, has derrick up for a rotary test. Duluth Syndicate's No. 1, LSD 6, Section 29-48-10w4, is rigging up. Duluth Syndicate's No. 2 has been spotted in LSD 1, Section 11-48-10w4. Edalta Oils' No. 1, LSD 15, Section 19-45-6w4, is rigging up for rotary test. Lloyd's Petroleum's No. 1, LSD 12, Section 6-45-6w4, has derrick up. Maple Leaf Oil & Gas Co.'s No. 2, LSD 1, Section 24-45-8w4, is rigging up with rotary for a test for gas. Mid-Canada Oils' No. 1, LSD 6, Section 13-45-6w4, has derrick up. Onalta Oils' No. 1, LSD 8, Section 20-45-6w4, has cemented second string of 15½-inch casing at 700 feet. Onalta's No. 2 has been spotted in LSD 8, same section. Peninsular Petroleums' No. 1, LSD 16, Section 30-45-6w4, has derrick up. Sasko-Wainwright Oil & Gas Co.'s No. 2, LSD 8, Section 19-45-6w4, has derrick up. Sugars Syndicate's No. 1, Section 30-45-7w4, has combination derrick up. No. 2 is preparing to erect rotary derrick on the same section. Wainwell's No. 4, LSD 25, Section 36-44-7w4, is reported likely a 100-bbl. producer. Wainwright Petroleums' No. 1, LSD 4, Section 18-45-6w4, has derrick up. Wainwright West's No. 1, LSD 1, Section 1-45-7w4, has derrick up. Weymarn Petroleums is drilling structural tests on the Myers lease near Wainwright.

Anglo-Persian in British Columbia

In British Columbia, a syndicate of British and Canadian capitalists reported to represent the Anglo-Persian Oil Co., is planning to start development work in the northern part of the province. It is understood the syndicate will apply to the provincial government for exclusive drilling rights on a large area in the Peace River district of northern British Columbia, development work to be carried on by the D'Arcy Exploration & Development Co., an Anglo-Persian subsidiary. Anglo-Persian interests some years ago applied for an exclusive concession covering a large part of the Peace River area in British Columbia, but this was refused by the provincial government. The government itself subsequently drilled several prospecting tests in the Peace River area, the results of which were negative so far as commercial oil production was concerned, though it is understood geological investigation indicates the possibility of a considerable oil field.

Ontario Fields

In the Ontario fields, Ajax Oil & Gas Co.'s No. 5 in the eastern end of the Dover Field, Kent County, is reported drilling around 1,800 feet. Acme Oil & Gas Co. is reported starting work on its No. 1 test north of Ajax No. 4 producer. Union Natural Gas Co.'s No. 22 deep test in the west Dover Field is drilling around 1,000 feet. In Romney Township, South-

ern Ontario Gas Co. is drilling a test of the Tilbury sand 2 miles west of Coatsworth. In Howard Township, Kent County, Union Natural Gas Co.'s No. 3 Ridgetown has finished a dry hole at around 2,300 feet.

In Dawn Township, Lambton County, Union Natural Gas Co.'s No. 40 in the east end of the field is finishing a dry hole at 2,000 feet. High Pressure Oil & Gas Co.'s No. 3 Arkona is reported shut down. This is a deep test of the Trenton limestone. In Dawn Township, Union Natural Gas Co.'s No. 41 is starting.

In the old shallow fields of Petrolia and Oil Springs, an effort is being made to secure the co-operation of oil producers in the introduction of new methods of oil recovery. While the production of individual wells in these fields is usually only a few gallons a day, there is estimated to be a large amount of oil still in the shallow sands. Details of the proposition have not been made public, but it is claimed a considerable proportion of this oil can be recovered much more economically than by the present pumping methods.

CALIFORNIA FIELDS

(Continued from Page 66)

and every indication points to the development of favorable production as all are located in proven territory. The Petroleum Securities finished No. 13 Glide during the early part of the week and although this well was shut in immediately upon completion it showed a potentiality of 200 bbls. daily from 1,718 feet. The Pacific Western Oil Co. is prosecuting a rather comprehensive drilling program in this area covering the Glide, King and Reuch leases. Three wells are already under way and four more are being rigged up for early spud. The Union's Mount Poso pipe line expected to be completed some time within the next few weeks and will probably be running oil early in September. A tentative arrangement has been made to transport Shell Oil Co.'s production up to the extent of about 5,000 bbls. a day. This company has been engaged in a consistent development campaign at Mount Poso extending over a period of several years and while a number of producers have been completed during this period they have never been on steady production due to the absence of pipe line facilities.

Kettleman Hills

Operators in the Kettleman Hills Field of Kings County have approved the conservation program which limits and regulates production and development activities for a period of two years. The last signature is reported to have been secured a few days ago and every indication points to the removal of this field as a disturbing factor until after July 1, 1931. A close check indicates that although operators have apparently agreed upon a definite conservation program there is a possibility that at least one new well may be started, This situation is due to a lease held on fee property which contains a drilling clause calling for the initiation of work within the next 60 days. It may be possible, of course, that some concessions may be secured but as the matter stands at the present time the lease will be forfeited unless actual work is prosecuted within a specified time limit. The lease in question cost the lessor $80,000 in cash and will undoubtedly be protected either by initiating development work or securing an extension of time. This lease might precipitate an embarrassing situation but recent developments indicate that an extension of time will probably be secured upon payment of satisfactory compensation.

The situation at Kettleman Hills in general is very encouraging as it is the consensus of opinion that this field will be held back for the prescribed period. The Milham Exploration Co. has picked up an exceptionally promising looking oil sand in No. 1 Kennedy just below the 7,200-foot level and this well, located approximately 3 miles northwest of the discovery, seems practically assured of substantial production. Reports from the field indicate that it may even exceed the Milham's discovery well, No. 1 Elliott, which came in doing better than 4,000 bbls. daily. Normal footage was made in practically all wells in the Kettleman Hills Field during the past week, although the Bolsa Chica Oil Co. was somewhat above the average in No. 1 Ferguson. This company's well was recently surveyed at 5,500 feet and showed practically no deviation from the vertical. This is of unusual importance in view of the fast footage made since it was spudded in and Bolsa Chica officials attribute the fast drilling record and straight hole to the fact that no expense has been spared in providing sharp bits. The company's field department substitutes a new fish tail about every 40 feet and while this policy would ordinarily slow up drilling it has been unusually successful in the Bolsa Chica's No. 1 Ferguson, which was rotating ahead a few days ago with a straight hole at 5,700 feet.

SOUTHWEST TEXAS FIELDS

(Continued from Page 60)

feet, 100 bbls.; No. 6 Hahl, Survey 250, Block 24, located 150 feet north line, 1,050 feet east line, at 1,668 feet, drilling; No. 7 Hahl, Survey 250, Block 24, located 150 feet east line, 750 feet north line, location; No. 7-B Hahl, Survey 61, located 650 feet south line, 2,950 feet east line, at 4,425 feet, drilling. S. & O. Oil Co.'s No. 6 Hahl, Survey 250, Block 23, 150 feet south line, 1,050 feet east line, at 1,900 feet, drilling.

Randado Field—Jim Hogg

Randado Oil Corp.'s No. 35 Palacious, Survey 291, Block 2, 150 feet south line, 450 feet east line, at 100 feet, standing.

Henne-Winch-Fariss Field

George S. Marshall's No. 4 Holbein, Share 3, Block 10, Survey 11, located 150 feet south and west lines, has derrick up; No. 5 Holbein, Share 3, Block 10, Survey 15, 150 feet north and west lines, derrick. Magnolia Petroleum Co.'s No. 1 F. G. Martinez, E half of Survey No. 6, 150 feet north and west lines, at 1,600 feet, drilling. W. R. Shankle's No. 1 Holbein, Las Animas Survey, Share 3, 150 feet north and west lines, at 1,200 feet, drilling.

Alworth Field

Alworth, Stevens, Hill Co.'s No. 14 M. Garza, Survey 39, Block 8, 204 feet southeast lines, 570 feet northeast lines, at 1,016 feet, preparing to resume drilling.

Schott Field—Webb

Livingston & Payne's No. 1 Guerra-Ochoa, Survey 58, located 917 feet east line, 470 feet south line, at 1,649 feet, standing.

Mid-Ojuelos Field

Crown Central Petroleum Corp.'s No. 1 E. Garcia, Survey 463, located 900 feet east line, 150 feet south line, at 1,579 feet, tested dry, standing waiting orders.

Carolina-Texas Field

Carolina-Texas Oil Co.'s No. 3 Benavides, Survey 683, Block 12, 150 feet south line, 450 feet west line, at 100 feet, drilling. Foster Barsley's No. 6 Webster, NE SW, Survey 684, 150 feet south and east lines, is rigging up. Trapshooter Reilly Oil & Royalties Co.'s No. 2 Benavides, Survey 685, located 1,170 feet west line, 150 feet north line, at 2,100 feet, drilling.

Magnolia-Cole Field

Cole Petroleum Co.'s No. 67 Benavides, Survey 412, Block 12, located 313 feet east line, 160 feet north line, at 38 feet, standing. Magnolia Petroleum Co.'s No. 1 J. G. Valdez, Survey 754, Block 15, 150 feet south and west lines, is derrick; No. 1 A. Benavides, N half of Survey 660, located 660 feet south and east lines, is derrick; No. 1 M. Benavides, N half NW, Section 660, located 660 feet south and east lines, at 3,749, drilling; No. 1 C. Benavides, Survey 662, 660 feet north and east lines, is rig.

Cole Gas Field

Southern Oil Co.'s No. 1 King-Harper, Survey 323, located 337 feet north line, 1,560 feet east line, at 2,100 feet, drilling. J. J. O'Hern's No. 2 Benavides, SE NE, Survey 694, located 660 feet north and west lines, at 1,800 feet, drilling. O. W. Killam's No. 11, Survey No. 3, at 1,265 feet, drilling. Magnolia Petroleum Co.'s No. 1 O'Hern-Benavides, Survey 694, Block 2, located 150 feet south and east lines, at 2,311 feet, drilling.

Jennings Field—Zapata

Blair & Acklin's No. 1 Trevino, Survey 66, Block 1, located 150 feet north and west lines, is rigging up. H. Muckelroy, Jr.'s No. 3 Trevino, Survey 412, Block 25, located 660 feet north and east lines, is rigging up. South Texas Products Co.'s No. 1 Roy Jennings, Mira Flores Survey, 18,055 feet southwest lines, 11,040 feet southeast lines, at 2,565 feet, drilling; No. 5 Joe Jennings, Cerrito Blanco grant, 2,775 feet northeast lines, 1,585 feet northwest lines, at 500 feet, drilling. Killam-Duggan's No. 5 Cuellar, 2,900 feet east line, 1,350 feet south line of 1,772-acre tract, at 500 feet, drilling.

Mirando Valley Field

O. W. Killam's No. 1 Flores, Survey 240, located 850 feet southeast lines, 560 feet northeast lines, at 1,260 feet, drilling.

Somerset Field—Atascosa

Schimmel Production Co.'s No. 3 H. F. Gayle, C.E.P.I.&M. Survey, Block 2, located 946 feet east of No. 1, location.

Yoast Field—Bastrop

The Texas Company's No. 8 Yoast, A. Garcia Survey, derrick.

Dobrowolski Field—Bexar

Amelia Balzart's No. 3 J. P. Adams, 150 feet from road offsetting No. 1 Dobrowolski, has derrick up. F. H. Eckert's No. 4 Dobrowolski, 330 feet southwest of No. 3, location.

Gas Ridge Field

Medio Oil Co.'s No. 2 Hamilton Land & Development Co., L. Munos Survey, 200 feet east line, 1,375 feet north line, at 470 feet, drilling.

Joe Bruner Field—Caldwell

J. W. Allen's No. 1 A. B. Jackson, Spencer Morris Survey, 150 feet north and west lines, at 2,325 feet, drilling. Tip de Arman's No. 3 G. F. Carter, J. Hinds Survey, 50 feet north and west lines, location. E. R. Brawn and C. O. Miller's No. 2 R. W. Carter, Gerren Hinds Survey, 150 feet north and west lines, 300 feet north of No. 1, at 2,680 feet, showing considerable water. Forest Oil Co.'s No. 1 M. H. Woods, Isaac Weldon Survey, Block 35, south central part of lease, location; No. 1 T. Enriquez, Luling Townsite Survey, Block 32, center of Lot 30, location. T. C. Hadley's No. 1 J. M. Hanson, James Hinds Survey, 150 feet south and east lines of W half of east 20 acres of the J. M. Hanson farm, at 2,640 feet, shut down; No. 4 Merriwether at 2,741 feet swabbing much water, little oil.

Humble Oil & Refining Co.'s No. 6 C. F. Dye, James Hinds Survey, 492 feet south line, 465 feet west line, at 2,640 feet, drilling in Georgetown; No. 1-B J. L. Northcut, at 2,687 feet, drilling; No. 7-B Clyant Smith, James Hinds Survey, 150 feet south and east lines, at 2,410 feet, drilling. Humble Oil & Refining Co. and Luling Oil & Gas Co.'s No. 6 C. F. Dye, 492 feet south line, 465 feet west line, at 1,890 feet, drilling; No. 7 C. F. Dye, James Hinds Survey, 150 feet north line, 450 feet east line, rigging up; No. 6-A Floy Gray, 525 feet south line, 820 feet west line, at 2,683 feet, drilling; No. 8-A Floy Gray, James Hinds Survey, 150 feet south and west lines, moving in rig; No. 6-C Floy Gray, James Hinds Survey, 150 feet south and west lines, moving in rig; No. 7-C Floy Gray, James Hinds Survey, 450 feet west line, 571 feet north line, at 750 feet, drilling in shale and boulders; No. 7 T. A. Tiller, James Hinds Survey, 150 feet south line, 450 feet east line, derrick.

Nash, Windfohr & Perry's No. 4-C Davis, A. Floyd Survey, 200 feet south of No. 3, 450 feet west line of lease, drilling at 2,720 feet; No. 4 Wilson, A. Floyd Survey, 200 feet west line, 350 feet north line, location. The Texas Company's No. 8 Merriwether at 2,786 feet, total depth, standing, shot casing.

Darst Creek Field—Guadalupe

Gulf Production Co.'s No. 1 C. Anderson, J. C. Darst Survey, 150 feet south and east lines, location; No. 1 Tadlock, J. C. Darst Survey, 150 feet out of the northwest corner, location. Cranfill & Reynolds' (Stroube & Stroube) No. 1 L. G. Denman, A. S. Emmett Survey, center 311-foot tract northwest of Humble company's 300-acre lease, set 40 feet 10-inch casing. The Texas Company's No. 1 Dallas Wilson, J. C. Darst Survey, 750 feet west line, 150 feet north line, at 2,608 feet, shut down by agreement; No. 2 Dallas Wilson, J. C. Darst Survey, 150 feet south and west lines, derrick; No. 1 Lemmie Anderson, J. C. Darst Survey, 750 feet east line, 150 feet south line, Elevation 511, at 2,590 feet, coring for Georgetown lime; No. 2 Lemmie Anderson, 150 feet out of northeast corner, at 685 feet, shut down; No. 3 Lemmie Anderson, 150 feet north and west lines, location; No. 4 Lemmie Anderson, derrick.

Kingsville Field—Kleberg

Humble Oil & Refining Co.'s No. 4 Flato, Block 10, Section 40, 250 feet east line, 450 feet north line, at 6,577 feet, tested big flow of hot salt water with little show of oil.

Cartwright Field—Live Oak

Houston Oil Co.'s No. 2-A Brown, M. B. Kilvin, 1,200 feet northeast of No. 1, at 1,924 feet, drilling in shale.

Adams Field—Medina

Southern Gas Utilities Co.'s No. 22 M. M. Adams, F. Mumme No. 7 Survey, Block 23, located 2,308 feet west line, 644 feet south line, at 400 feet, drilling.

Agua Dulce Field—Nueces

Agua Dulce Oil & Gas Co.'s No. 1 Otto Wolters, Section 34, Benton Pasture, at 2,047 feet, standing. R. & G. Corp.'s No. 1 Brown, George H. Paul Subdivision, center SE NW Section 87, location.

White Point Field—San Patricio

Spencer & Rhodes' No. 2 The Texas Company fee, Lot 6, Roos Subdivision, 150 feet south and west lines of west 50 acres, erecting derrick.

Nursery Field—Victoria

Humble Oil & Refining Co.'s No. 3-A Jay J. Welder, D.L.&C. Survey, 1,634 feet southeast lines, 736 feet southwest lines, at 4,010 feet, drilling.

COMPLETIONS

Bexar County

Medio Oil Co.'s No. 2 Hamilton Land & Development Co., L. Munos Survey, total depth 480 feet, 3 bbls.

Caldwell County

Humble Oil & Refining Co. and Luling Oil & Gas Co.'s No. 3-A Floy Gray, total depth 2,680 feet, 200 bbls.

Magnolia Petroleum Co.'s No. 1 Mattie Merriweather, A. Floyd Survey, total depth 2,490 feet, small well.

The Texas Company's No. 10 Merriwether, total depth 2,740 feet, swabbing, small well.

Duval County

Humble Oil & Refining Co.'s No. 31 Kohler, Survey 172, total depth 1,792 feet, 75 bbls. No. 32 Kohler, Survey 399, total depth 1,758 feet, 10,000,000 feet of gas, 550 pounds rock pressure.

Magnolia Petroleum Co.'s No. 4 Hahl, Survey 250, Block 24, total depth 2,338 feet, 100 bbls.

S. & O. Oil Co.'s No. 6 Hahl, Survey 250, Block 23, total depth 2,331 feet. 75 bbls.

Jim Hogg County

W. R. Shankle's No. 1 Holbein, Las Animas Grant Survey, Share 3, total depth 2,138 feet, 10,000,000 feet of gas, spraying oil.

Webb County

Magnolia Petroleum Co.'s No. 1 O'Hern-Benavides, Survey 694, Block 2, total depth 2,318 feet, 10,000,000 feet of gas.

Zapata County

Killam-Duggan's No. 5 Cuellar, Cerrito Blanco Grant Survey, total depth 1,589 feet, 300 bbls. through tubing.

ABANDONED TESTS

Duval County

The Texas Company's No. 1 Hyatt, Block 25, Sweeden farm tracts, total depth 3,205 feet, plugged and abandoned.

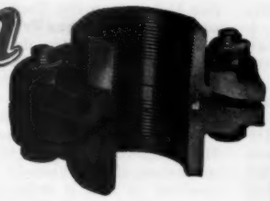
Humble Oil & Refining Co.'s No. 23 Kohler, Survey 404, total depth 2,472 feet, plugged and abandoned.

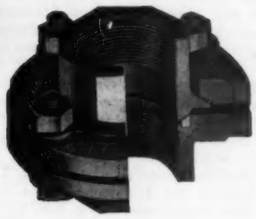
NEW LOCATIONS

Bee County

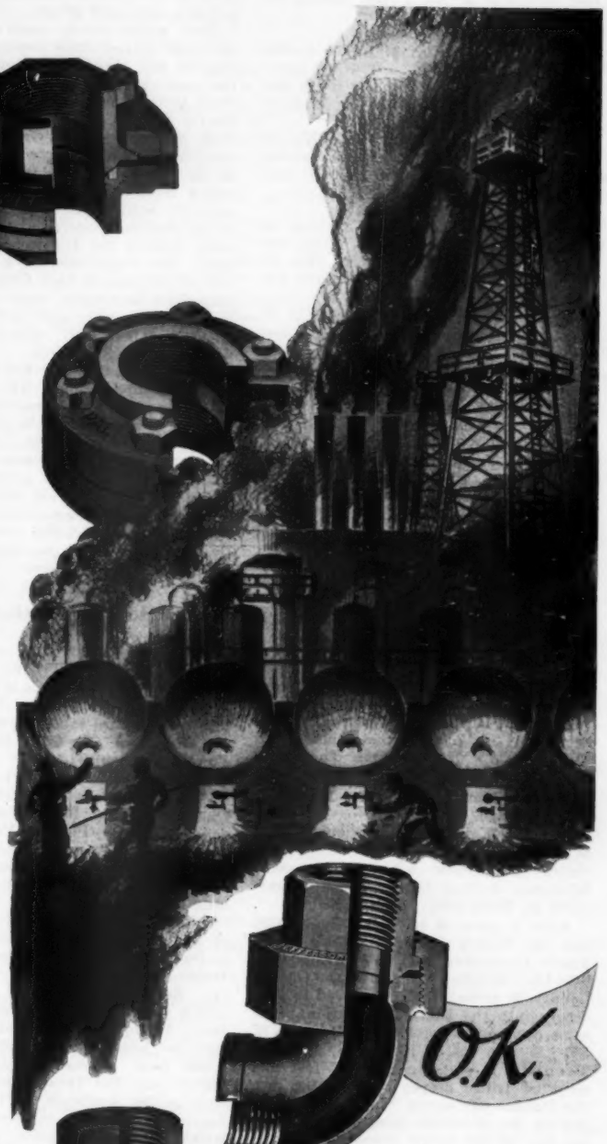
Mission Drilling Co.'s No. 4 Ray, 150

Jefferson





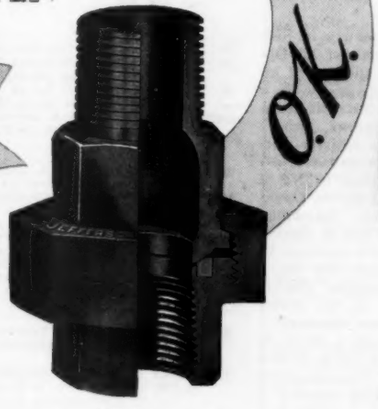
Unions and Flanges PASS EVERY TEST for Service



Submitted, year after year, to the trying ordeals of oil industry usage, Jefferson Unions and Flanges consistently come through with a perfect record for tightness, strength, durability and ease of application. Each one of these features is insured by the Jefferson specialized methods of construction.

Air-refined, Certified Malleable Iron, made in our own foundry, is the basic material for Jefferson Union construction—along with the finest grade of brass, for seat rings. Each seat ring is set in a recess, away from the runway of the fitting, which affords it protection from corrosive and abrasive wear. Patented, ground ball, brass-to-iron joints, become as one piece of metal, when tightened, providing absolute tightness without the use of gaskets. All threads are heavily coated with graphite. Spherical joints, with liberal play between nut and swivel end, insure speedy and easy application, even when pipe stems are out of alignment.

Jefferson Unions and Flanges are manufactured in types and sizes to meet every union requirement. Furnished with iron to iron joints, as well as brass to iron, at no extra cost, when specified for use in oil fields where a highly corrosive condition exists.



Handled by all leading Oil Industry Jobbers

JEFFERSON UNION COMPANY
LEXINGTON, MASS.,
U. S. A.

JEFFERSON

feet northwest of No. 1 Ray, moving rig from No. 1.

Caldwell County

Humble Oil & Refining Co. and Luling Oil & Gas Co.'s No. 4-B Floy Gray, James Hinds Survey, 150 feet north and east lines, at 1,050 feet, drilling in sandstone.

Humble Oil & Refining Co.'s No. 13 Moses & Baggett, James Hinds Survey, 450 feet east line, 1,189 feet south line, at 1,510 feet, drilling shale

Duval County

Humble Oil & Refining Co.'s No. 33 Kohler, Survey 164, 330 feet north and west lines, ready to spud in; No. 34 Kohler, Survey 396, 330 feet east and south lines, ready to spud in.

C. E. Long's (Shell) No. 1 C. W. Hahl, Survey 280, Block 24, 150 feet north line, 750 feet east line, rigging up.

Suladie-Peters-Jack's No. 1 Walsh, Survey 185, located 800 feet west line, 900 feet south line, location.

Milam County

Milam Oil & Gas Co.'s No. 1 S. T. Souther, L. Taylor Survey, 150 feet north and west lines, location.

Zapata County

Killam-Duggan's No. 6 Cuellar, Survey 277, located 1,050 feet south line, 2,900 feet east line, spudded in.

O. W. Killam's No. 15 Cuellar, location to be given next week, rigging up.

MICHIGAN FIELDS

(Continued from Page 64)

Association No. 2 Henry Dykstra, NW SE Section 12-10-17; Nelson & Witt, Inc., No. 2-B George Fenner, NE SW Section 11-10-17; and the Johnson Oil Refining Co.'s No. 15 John Thompson, SE NW Section 12-10-17.

Western Michigan's Deepest Wildcat

The Wright Oil Co.'s No. 1 Joseph Kluting well, SW NW Section 10-8-13, Wright Township, Ottawa County, continues the deepest wildcat in western Michigan, drilling in the Niagara limestone at 4,290 feet.

After a show of oil and gas at 2,690 feet the Sankey Oil & Gas Co.'s No. 1 Frank Darlington well, SW SE Section 9-14-15, Newfield Township, Oceana County, is setting casing at 2,740 to drill deeper into the Dundee formation. The same company's No. 1 G. A. Beam, NW SE Section 22-14-15, also Newfield Township, is reaming at 2,687 feet and must be drilled deeper before going into the Dundee pay sands. Lightning struck the rig but did little damage. After being dry in the upper Traverse at 1,910 feet the Oceana Oil Corp.'s No. 1 Vanderwaal well, SW NE Section 35-14-17, Shelby Township, near New Era, is drilling at more than 2,000 feet on the way to the Dundee and lower formations.

Hale, Hickey & Snyder's No. 1 Snyder, NE SW Section 20-12-8, Cato Township, Montcalm County, is drilling at 4,050 feet after topping the Dundee at 3,490 feet and having a show of oil 10 feet in at 3,500 feet. The well was reported to have had a show at 3,525 feet also. It will be made a deep test. The Blatchford Oil & Gas Co.'s No. 1 Blatchford, NW SW Section 11-3s-17w, Watervliet Township, Berrien County, is reaming and will reset casing to drill to the Niagara and deeper formations after being dry in the Traverse and Dundee. C. A. Daniels' No. 1 Clute well, NW NE Section 2-7s-13w, Porter Township, Cas County, is reported to be ready to drill into the Trenton rock.

Show in Upper Traverse

The Bi-County Fuel & Gas Co.'s Emanuel Home, SE NE Section 34-2s-17w, Covert Township, Van Buren County, also near Watervliet, is drilling at 1,490 feet after a show in the upper Traverse at 1,020 feet. The East Shore Oil Co.'s No. 1 DeWitt, SE NW Section 11-1-16, is drilling at 1,600 feet after striking water in the upper Traverse. It is located southwest of Holland in Laketon Township of Allegan County.

So far neither wildcat activities nor deep tests in the Muskegon Field have proved successful in Michigan. These two lines of activity are being counted upon at the present time for the discovery of a new pool of oil.

Two wells which made more than 400 bbls. initial daily production in the Dundee pay sands have been brought in the past week in the Mount Pleasant Field by the Pure Oil Co. The Pure company's No. 1-A State-Midland well, SW NW Section 1-14-2, Greendale Township, Midland County, was first reported as the largest producer in the field but a later check showed that it made only 412 bbls. in the first 24 hours. Pay sands were encountered at 3,560 to 3,570 after topping the Dundee high at 3,470 feet. The Pure company's No. 1 Fox, NE NE Section 13-14-3, Chippewa Township, Isabella County, made 425 bbls. initial daily flow in pay sands struck at 2,550 to 2,560 feet. Dundee limestone was topped at 3,515 feet.

The Mount Pleasant Oil & Gas Co.'s No. 1 Thompson-Bortz, NE NW Section 12-14-3, Chippewa Township, Isabella County, is expected to be the next well drilled in. It is at about 3,200 feet. The field now has a daily capacity of about 5,000 bbls. The entire production is being handled by the Pure Oil Co. through 3-inch gathering lines. One 55,000-bbl. storage tank is nearing completion and two more are under construction to take care of future production.

LOUISIANA-ARKANSAS

(Continued from Page 56)

34-15-15, pumped 50 bbls., total depth 1,964 feet; Skelly Oil Co.'s No. 1 Wood, Section 34-15-15, pumped 196 bbls., 15 per cent water, total depth 1,983 feet, and Standard Oil Co.'s No. 7 George Powell, Section 34-15-15, pumped 105 bbls., total depth 1,975 feet.

A community test in Section 11-12-16, Ouachita County, 12 miles north of Camden, drilled by Phillips Petroleum Co., with four or five other major companies interested in it, was a failure. The well, No. 1 Eagle Mills, was dry in the red beds at 3,500 feet.

W. M. Coates and others cored six feet of sand showing oil at around 4,080 feet in their Junction City wildcat, No. 1 McDuffie in Section 32-19-17, Union County. Surface elevation of the wildcat, which has been watched closely, is 211 feet. It topped the Nacatoch at 2,075 feet, red beds at 3,210 and anhydrite at 3,390 feet. These figures show it higher than The Texas Company's recent well to the southeast in Union Parish, La., No. 1 Fuller in Section 9-21-2w, which had an elevation of 314 feet, topped the Nacatoch at 2,135 feet, the red beds at 3,162 feet and the anhydrite at 3,354 feet.

J. P. Hawkins' No. 1 Goodwin in Section 8-17-15, four miles north of El Dorado, drilled to 2,210 feet and tested an estimated 3,000,000 feet of gas with a show of oil and is fishing for drill stem.

In North Central Arkansas where there has been much leasing activity during the last few months, Arkansas Natural Gas Corp. has gone back to No. 2 Bynum, Section 12-10-24, Johnson County, Clarksville gas district, abandoned as a dry hole at 3,125 feet and is rigging up to deepen. It also made location in Section 15-19-21 Pope County for No. 1 McFaddin. Phillips Petroleum Co. is rigging up on a location in the center of Section 11-14-28, Madison County.

Joe Hurley has assembled a block in Sections 4, 5, 6, 8 and 9-17-12, Union County, 6 miles east of Champagnolle for a test to the Nacatoch which, if found high, will be drilled to 3,500 feet "unless."

Geologists Watch Lackey Well

Watching with a great deal of interest as the Lackey well of the Lauderdale Oil & Gas Co., 10 miles northeast of Meridian, passes out of the Selma chalk series into the Eutaw (Blossom) of the Upper Cretaceous, are geologists of the Texas, Carter, Gulf Refining and Sun Oil of Dallas. Picking up the chalk "high" at 1,192 feet recently, these major company representatives are checking the well as it leaves the chalk. It is estimated by the geological department of the Gulf Refining that the well is 53 feet higher than the Topton test, 2 miles southeast, which was drilled by the same group last year. The drillers are coring at 2,096 feet in a sand, it is thought. The Gulf Refining Co. and the Lion Oil Refining Co. of El Dorado, Ark., have recorded acreage around the Lackey.

A second deep test of the famous Hatchetigbee anticline, 40 miles airline southwest of Meridian in Alabama, was spudded in and is being drilled at 250 feet by Robinson & Greer of Shreveport, on land belonging to the Douglas Oil Co. of Tulsa in Section 15-9-2, Choctaw County. Interested both in the acreage around the test on the Hatchetigbee and in the test itself in certain cases, are the Gulf Refining, Texas Company, Magnolia, Simms Oil, Shell Petroleum, Pure Oil, Transcontinental and Carter Oil of Tulsa.

The first Robinson & Greer well on the anticline finished in May reached a depth of 4,020 feet. Source material and live oil were found in some of the cores. This fact as with the Topton well near Meridian, is the cause of the present structure testing by the Gulf Refining with diamond drill outfit and the second Robinson & Greer well.

NORTH LOUISIANA
Average Daily Production for the Week Ending August 17

Caddo, light	8,905
Caddo, heavy	3,335
Homer	3,920
Haynesville	5,010
De Soto-Red River	3,570
Elm Grove	559
Bellevue	650
Cotton Valley	2,400
Urania	6,310
Pleasant Hill	1,730
Sarepta	250
Total	36,639
Arkansas	
El Dorado	4,640
Smackover, light	6,030
Smackover, heavy	46,305
Stephens	990
Nevada	1,030
Lisbon	1,240
Champagnolle	6,030
Bradley	85
Total	66,350
Total both states	102,989
Total previous week	103,320
Decrease	331

LOUISIANA-ARKANSAS PROVEN AREAS

NORTH LOUISIANA

BOSSIER PARISH—CARTERVILLE

Company, farm and location— Remarks:

Delaware-Louisiana Development Co.'s No. 4 Bollinger, Sec. 38-23-11 ..... Swbd. little mud and oil 3,150 ft; W.O.S.R.; T.D. 3,922 ft.

BOSSIER—BELLEVUE

H. L. Morgan et als' No. 1 Wetherbee, 200 ft. S, 200 ft. W, NE cor. SW SE, Sec. 21-19-11 ..... Drlg. 700 ft.

BOSSIER—ELM GROVE

J. F. Palmer's No. 4 McCann, Sec. 31-16-11 ..... S.D. 1,910 ft.

Palmer Corp.'s No. 1 Roos, 660 ft. N, 660 ft. W, SE cor. NW, Sec. 23-17-12 ..... Spudded Aug. 8; cmtd. 9-in. 851 ft.

CADDO PARISH—MOORINGSPORT

Falcon Oil Co.'s No. 1 Nunley, 3,212 ft. N and 5,591 ft. E SW cor. Sec. 29-20-15 ..... Cmtd. 6-in. 2,121 ft.

C. B. Moore's No. 1 Buckalew, 2,000 ft. N, 1,000 ft. W, SE cor., Sec. 30-20-15 ..... Rigging up.

CADDO PARISH—DIXIE

Gold and Sklar's No. 2 Hunter, 330 ft. S and W, NE cor. SW NE, Sec. 17-19-14 ..... Tested dry 2,421 ft; S.D; W.O. 2,450 ft.

Gold & Sklar's No. 3 Hunter, 330 ft. N, 300 ft. E, SW cor. SW NE, Sec. 17-19-14 ..... Derrick.

Gold & Sklar's No. 4 Hunter, 330 ft. N, 300 ft. W, SE cor. SW NE, Sec. 17-19-14 ..... Location.

Gulf Ref. Co.'s No. 5 Oden, 990 ft. S, 990 ft. E, NW cor. NE, Sec. 18-19-14 ..... Bailed dry 2,405 ft; made 15 bbls. oil and wtr. in 6 hrs; T.A. 2,454 ft.

Gulf Ref. Co.'s No. 2 Hunter, 330 ft. W, 250 ft. S, C, Sec. 17-19-14 ..... Standing 300 ft. in oil; W.O.S.R; T.D. 2,408 ft.

Ohio Oil Co.'s No. 3 Hunter, 330 ft. N and E, SW cor. NW NE, Sec. 17-19-14 ..... Oil show 2,415 ft; bailed dry; drilling deeper.

Ohio Oil Co.'s No. 4 Hunter, 330 ft. N and W, SE cor. NW NE, Sec. 17-19-14 ..... Derrick.

Ohio Oil Co.'s No. 5 Hunter, SE cor. NE NW, Sec. 17-19-14. Spudded Aug. 1; cmtd. 10-in. 100 ft; drlg. 1,000 ft.

Palmer Corp.'s No. 2 Hunter, 990 ft. E, 330 ft. N, SW cor. Sec. 8-19-14 ..... W.O.S.R. 9 ft. broken sand; T.D. 2,411 ft.

Standard Oil Co.'s No. 3 Henderson, 220 ft. N, 330 ft. W, SE cor. SW SE, Sec. 7-19-14 ..... Derrick.

Standard Oil Co.'s No. 3 Oden, 330 ft. S, 330 ft. W, NE cor. SW NE ..... Cmtd. 6-in. 2,376 ft; 8 ft. sand 2,412-20 ft.

CADDO PARISH—OIL CITY

W. D. Chew's No. 5 fee, Sec. 33-21-16 ..... Cmtng. bottom; T.D. 2,306 ft.

W. D. Chew's No. 1-C Levee Board, 2,490 ft. W, 1,470 ft. S, NE cor., Sec. 34-21-16 ..... W.O.S.R. 1,826 ft.

W. D. Chew's No. 2-C Levee Board, 2,490 ft. W, 1,473 ft. S, NE cor., Sec. 34-21-16 ..... Bailing to test; T.D. 932 ft.

Gulf Ref. Co.'s No. 18-A Levee Board, 100 ft. S, 180 ft. E, NW cor. NE, Sec. 34-21-16 ..... Spudded Aug. 1; cmtd. 10-in. 45 ft; 6⅝-in. 1,800 ft; 23 ft. broken sand; W.O.S.R; T.D. 1,823 ft.

Gulf Ref. Co.'s No. 19-A Levee Board, 700 ft. E, 220 ft. S, NW cor. NE, Sec. 34-21-16 ..... Location.

Magnolia Petroleum Co.'s No. 18 Doan-Thigpen, SE cor. SW SE Sec. 6-20-15 ..... Fishing for drill stem 1,700 ft; T. D. 3,678 ft.

Magnolia Pet. Co.'s No. 4 Levee Board, 330 ft. S, 330 ft. E, NW cor. NE NE, Section 7-20-15 ..... Rig up.

Oil City Oil Co.'s No. 6 Curtis, 985 ft. W, 2,508 ft. S, NE cor. NW, Sec. 10-20-16 ..... Cmtd. 6-in. 2,141 ft.

Shreveport Oil Corp.'s No. 1 Guy, NW NE Sec. 33-21-15 ..... Tested S.W. with show of oil; S.D. for orders; T.D. 2,300 ft.

Simplex Oil Co.'s No. 7 Youree-Randolph, 660 ft. N and 660 ft. W C Sec. 13-20-15 ..... Tested 50,000 ft. gas at 2,300 ft; S.D. for orders; T.D. 2,326 ft.

The Texas Co.'s No. 70 Levee Board, 700 ft. E, 275 ft. N, SW cor. SE, Sec. 27-21-16 ..... Cmtd. 8¼-in. 1,804 ft; bailing to test; T.D. 1,826 ft.

The Texas Co.'s No. 71 Levee Board, 1,150 ft. E, 700 ft. N, SE cor. SE, Sec. 27-21-16 ..... Derrick.

L. A. Warren's No. 1 Ivins, 200 ft. S, 200 ft. W, C, Sec. 33-22-15 ..... Showed oil 1,730 ft; bailed dry; shot with 50 qts. 1,530-70 ft; C. O.; T.D. 1,730 ft.

CADDO PARISH—HOSSTON

Standish O. & R. Co.'s No. 12 Allen, 1,120 ft. W, 330 ft. S, C, Sec. 23-22-15 ..... Spudded Aug. 12; cmtd. 10-in. at 42 ft.

CADDO PARISH—LEWIS

Snake Creek Oil Co.'s No. 1 Levee Board, SW NW Sec. 9-21-16 ..... Tested dry with show of oil and S.W; S.D.; T.D. 2,228 ft.

CADDO PARISH—PINE ISLAND

H. J. Bussa's No. 7 Huckaby-Odell, 200 ft. E, 100 ft. N, SW cor. N½ NE NE, Sec. 15-21-15 ..... Derrick.

Dixie Oil Co.'s No. 92 Dillon, SW NW Sec. 13-21-15 .... Reaming to bottom; corrected depth 6,327 ft.

Dixie Oil Co.'s No. 101 Dillon, 1,535 ft. S, 895 ft. E, NW cor., Sec. 13-21-15 ..... Drlg. 1,512 ft.

Magnolia Petroleum Co.'s No. 18 Dillon, NW cor. Sec. 24-21-15 ..... T.A. 4,866 ft.

CLAIBORNE PARISH—HOMER

Oakes and others' No. 1 Richardson, NE SE Sec. 19-21-7 ..... S.D. 1,112 ft; in litigation.

CLAIBORNE PARISH—HAYNESVILLE

Smitherman & McDonald and others' No. 1 Miller, 325 ft. S and 660 ft. E C Sec. 17-23-8 ..... S.D. for orders; T.D. 4,780 ft.

LASALLE PARISH—URANIA

Air Lift Oil Co.'s No. 2 Mo.-Pac. R. R., 610 ft. W, 320 ft. N, SE cor. NW, Sec. 26-10-1e; formerly listed as Gardner et als' No. 1 Mo.-P.R.R. ..... Tested dry 1,532 ft; retesting.

Air Lift Oil Co.'s No. 3 Mo.-Pac. R. R., Section 26-10-1e. Spudded Aug. 12; cmtd. 10-in. at 100 ft.

Kinney, Hardtner & Randall's No. 1 Kinney, SW SW Sec. 7-10-2e ..... S.D. 1,320 ft.

Philp and others' No. 1 Urania, SE cor. NE NE Sec. 1-10-1e ..... Tested 500,000 ft. gas and sanded up; C.O.; T.D. 730 ft.

Randall and others' No. 3 Urania, Sec. 1-10-1e ..... S.D. 675 ft.

G. W. Zoder's No. 3 King, 150 ft. N, 600 ft. W, SE cor. NE, Sec. 13-10-1e ..... Cmtd. 6-in. 1,200 ft.

MOREHOUSE PARISH

Grecian Bend Gas Co.'s No. 1 Seacrease, 2,025 ft. S, 203 ft. W. NE cor. SE, Sec. 14-20-4 ..... Drlg. shale and gumbo 1,995 ft.

J. S. Herkness' No. 8 Bowles, 660 ft S, 660 ft. E, NW cor. NE, Sec. 18-20-5 ..... Drlg. gumbo 1,485 ft.

S. D. Hunter's No. 10 Allison, 1,962 ft. E, 660 ft. S, NW cor., Sec. 18-20-5 ..... Rigging up.

Magnolia Pet. Co.'s No. 5 U. S., 620 ft. N, 330 ft. W, SE cor. NE SW, Section 29-21-5 ..... Cmtd. 10¾-in. 900 ft.

Southern Carbon Co.'s No. 11 Tensas, SE SE Sec. 31-21-4 ..... Fishing for drill stem 2,094 ft.

Southern Carbon Co.'s No. 12 Tensas, 660 ft. S, 660 ft. E, NW cor., Sec. 2-20-4 ..... Location.

United Carbon Co.'s No. 2 Patton, 660 ft. N, 660 ft. E, SW cor. SE, Sec. 2-20-4 ..... Location.

United Carbon Co.'s No. 3 Patton, 660 ft. W, 660 ft. S, NE cor. SE, Sec. 2-20-4 ..... Location.

OUACHITA PARISH

Ark.-La. P. L. Co.'s No. 2 McEnery, 221 ft. N, 660 ft. E, SW cor. NW, Sec. 21-19-4 ..... Drlg. 1,550 ft.

Austin & Jordan's No. 1 H. M. McGuire, SW SW Sec. 11-18-3 ..... Cmtd. 6-in. 2,226 ft.

Bahan & Bahan's No. 1 Frierson, 300 ft. S, 300 ft. E. NW cor. NE, Sec. 18-19-4 ..... Cmtd. 6-in. 2,120 ft.

J. B. Bond's No. 2 McEnery, 660 ft. N, 660 ft. W, SE cor., Sec. 19-19-4 ..... Spudded Aug. 12; cmtd. 12-in at 165 ft.

B. J. Dickinson's No. 1 Stubbs, 379 ft. S, 76 ft. W, NE cor. NW, Sec. 27-19-4 ..... Cmtd. 6-in. 2,150 ft.

J. S. Herkness' No. 7 Bowles, 1,806 ft. E, 3,165 ft. S, NW cor. NE, Sec. 20-20-5 ..... Tested S.W.; W.O. 2,306 ft.

Imperial O. & G. Co.'s No. 8 Stubbs, 1,792 ft. S, 550 ft. W, NE cor. NW, Sec. 18-19-4 ..... Cmtd. 6-in. 2,115 ft.

Imperial O. & G. Co.'s No. 9 Stubbs, 150 ft. S, 150 ft. E, NW cor., Sec. 18-19-4 ..... Location.

G. E. Jordan's No. 1 Anding, NW NE Sec. 13-18-5 .... Plugged back to 2,234 ft; T.D 2,480 ft.

Jordan Drlg. Co.'s No. 4 J. Cole, 2,337 ft. N, 3,201 ft. W, SE cor., Sec. 1-18-3 ..... Drlg. 1,700 ft.

La Del Prod. Co.'s No. 49 fee, 1,320 ft. N, 924 ft. W, SE cor. SW, Sec. 30-20-5 ..... Cmtd. 6-in. 2,139 ft.

Mack & Pipes' No. 1 Schultz, 610 ft. E, 60 ft. S southerly cor., Sec. 18-18-4, in Sec. 13-18-4 ..... Drlg. in; T.D. 2,178 ft.

Mack & Pipes' No. 2 Schultz, 2,777 ft. N, 300 ft. W, SE cor. SW, Sec. 13-18-4 ..... Rigging up.

Mack & Pipes' No. 1 Slagle & Johnson, 1,294 ft. N, 309 ft. W, NW cor., Sec. 47, in Sec. 48-18-4 ..... Rigging up.

Magnolia Pet. Co.'s No. 2 fee 401, 660 ft. S, 660 ft. E, NW cor., Sec. 2-18-3 ..... Location.

Magnolia Pet. Co.'s No. 3 fee 404, 660 ft. N, 660 ft. W, SE cor., Sec. 15-19-5 ..... Coring hard lime 2,239 ft.

Magnolia Pet. Co.'s No. 3 fee 404, 660 ft. N, 660 ft. E, SW cor., Sec. 11-19-5 ..... Location.

J. Potts, trustee's No. 3 Potts, 425 ft. N, 345 ft. E, NW cor., Sec. 47, in Sec. 7-18-4 ..... Drlg. shale and boulders 1,900 ft.

Southern Carbon Co.'s No. 54 fee, 660 ft. N, 674 ft. W, SE cor. NE, Sec. 13-19-4 ..... Drlg. 1,960 ft.

United Oil & Natural Gas Products Co. of Louisiana's No. 3 Cole, 660 ft. S, 594 ft. E, C, Sec. 26-20-4 ..... Derrick.

United Oil & Natural Gas Products Co. of Louisiana's No. 5 Guthrie, 6,396 ft. N, 6,022 ft. W, cor. Secs. 49, 26, and 25, Sec. 49-20-5 ..... Derrick.

H. L. Wood's No. 1 Miller, Sec. 18-18-5 ..... Tested 1,000,000 ft. gas; arranging to deepen; T.D. 2,260 ft.

RED RIVER PARISH

J. H. Askew's No. 1 Lockett, NW SW Sec. 32-13-10 .... Standing 80 ft. in oil; W.O.S.R.; 2,820 ft.

Joe Danciger et als' No. 1 Pickett, 6,621 ft. S, 2,623 ft. W, NE cor., Sec. 15-13-11, in Sec. 23-13-11 ..... Workover; arranging to shoot csg. at 900 ft. to test Nacatoch sand; completed in 1915 as Union Gas & Pet. Co.'s No. 1 Pickett.

Root Refineries, Inc.'s No. 1 Home State & Savings Bank, 1330 ft. N, 330 ft. W, C, Sec. 8-13-10 ..... Oil show 2,570 ft; drill stem test; S.W; cored sand showing gas 2,598 ft; S.D. 2,667 ft.

RICHLAND PARISH

W. C. Feazel's No. 1 Haynes & Vincent, 275 ft. S, 1,439 ft. E, NW cor. NE, Sec. 17-16-6 ..... Cmtd. 12-in. 204 ft; 8-in. 854 ft.

W. C. Feazel's No. 2 McCoy, 330 ft. E, 660 ft. N, SW cor., Sec. 33-16-6 ..... Cmtd. 8-in. 888 ft.

Feazel, Bendel & Brown's No. 1 J. H. Hunter, 660 ft. S. 660 ft. W, NE cor. NW, Sec. 23-16-6 ..... Location.

Hope Prod. Co.'s No. 1 Boykin, 660 ft. N, 660 ft. E, SW cor. NW, Sec. 21-17-6 ..... Location.

Hope Producing Co.'s No. 1 Eubanks, NW SE Sec. 26-17-6 ..... Cored anhydrite 2,876-80 ft.

S. R. Humble's No. 1 Binion & Sartor, 660 ft. S, 660 ft. E, NW cor. SW, Sec. 22-17-6 ..... Drilled 6-in. plug; bailing csg.; T. D. 2,274 ft.

International Gas Prod. Co.'s No. 1-A Beck, 650 ft. S, 660 ft. E, NW cor., Sec. 33-16-6 ..... Location.

Magnolia Pet. Co.'s No. 2 Hatch, 180 ft. N, 660 ft. W, SE cor. NE SE, Sec. 2-15-5 ..... Location.

Magnolia Pet. Co.'s No. 3 C. M. Noble, 370 ft. S, 105 ft. W, NE cor. SE NE, Sec. 35-16-5 ..... Cored gumbo 2,535 ft.

Magnolia Pet. Co.'s No. 4 C. M. Noble, 400 ft. S, 660 ft. W, NE cor. SE NE, Sec. 35-16-5 ..... Location.

Magnolia Pet. Co.'s No. 1 B. F. Sartor, 1,087 ft. W, 787 ft. N. C. Sec. 17-16-6 ..... Derrick.

M. L. Meredith's No. 1 Holdness, 1,980 ft. S, 990 ft. W, NE cor., Sec. 15-16-6 ..... Derrick.

Northern La. Nat. Gas Co.'s No. 4 Boykin, Sec. 20-17-14 .. Relief well to cratered Nos. 1 and 3 Boykin; spudded July 29 cmtd. 15½-in. 178 ft; S.D. 288 ft. waiting on blowout preventer.

Palmer Corp.'s No. 1 Boykin, 660 ft. S, 660 ft. E, NW cor. SW, Sec. 21-17-6 ..... Derrick.

Palmer Corp.'s No. 1 Eubanks, 1,100 ft. N, 350 ft. E, SW cor. SE NW, Sec. 26-17-6 ..... Derrick.

Palmer Corp.'s No. 1 La. Pet. Co., Sec. 22-17-6 ..... Old well drilling deeper; completed Sept. 8, 1927, as La. Pet. Co.'s No. 1 Binion & Sartor, 5,000,000 ft. gas; T.D. 2,476 ft; C.O. to 2,405 ft.

Palmer Corp.'s No. 4 Marshfield, 1,980 ft. E, 1,320 ft. N, SW cor. SW, Sec. 20-17-6 ..... Derrick.

Palmer Corp.'s No. 1 Mulhern, 660 ft. S, 1,320 ft. W, NE cor. NE, Sec. 29-17-6 ..... Derrick.

Palmer Corp.'s No. 4 Rhymes, 660 ft. S, 1,320 ft. W, NE cor. NW, Sec. 28-17-6 ..... Derrick.

Southern Carbon Co.'s No. 1 Binion & Sartor, 660 ft. N, 1,320 ft. E, SW cor. SE, Sec. 21-17-6 ..... Fish. for drill stem; T.D. 2,252 ft.

UNION PARISH

Bahan & Bahan's No. 2 Peake, 1,425 ft. S, 100 ft. W, NE cor., Sec. 17-20-4 ..... Location.

Bahan & Bahan's No. 1 School fee, formerly No. 1 Barr, NW NW Sec. 19-20-3 ..... Cmtd. 6-in. 2,065 ft.

WEBSTER PARISH—COTTON VALLEY

La. Oil Ref. Corp.'s No. 9 Gray, 1,980 ft. S, 660 ft. W, NE cor. NW, Sec. 29-21-10 ..... Rigging up; reported drilling at 200 ft. in error.

Magnolia Petroleum Co.'s No. 1 McCook & Hibbler, C SW SW Sec. 22-21-10 ..... Milling on junk 6,756 ft.

Magnolia Petroleum Co.'s No. 5-A Robbins, SE SW Sec. 21-21-10 ..... Reaming to set 8⅛-in.; T.D. 4,402 ft.

Ohio Oil Co.'s No. 44 Bodcaw, NW NW Sec. 28-21-10 ... Drlg. anhydrite 4,443 ft.

Palmer Corp.'s No. 1 Sally Coyle, 660 ft. S, 660 ft. W, NE cor. NE SW, Sec. 28-21-10 ..... Location.

WEBSTER PARISH—SAREPTA AND SHONGALOO

J. W. Clark, trustee's, No. 1 W. B. Roseberry, W half SE SW Sec. 33-23-9 ..... Standing 1,400 ft. fluid; little S. W.; 5 ft. sand; W.O.S.R.; T.D. 2,767 ft.

Pat Hudson's No. 1 Slack, SE NE Sec. 1-22-9 ..... Standing 1,200 ft. in oil; W.O.S.R.; T.D. 2,745 ft.

F. E. Estes' No. 2 Pardee, 1,270 ft. W, 50 ft. S, NE cor. NW, Sec. 3-22-11 ..... Derrick.

W. M. Kemp et als' No. 1 R. D. Campbell, 250 ft. S, 250 ft. W, NE cor. NW NE, Sec. 11-22-10 ..... S.D. 2,653 ft.

Magnolia Petroleum Co.'s No. 1 Sally Coyle, SE NE Sec. 2-22-11 ..... Standing 1,500 ft. in fluid; W.O. S.R.; T.D. 2,695 ft.

Magnolia Pet Co.'s No. 1 N. T. Knight, 330 ft. S, 330 ft. E, NW cor. SE SE, Sec. 33-23-9 ..... Rigging up.

Magnolia Pet. Co.'s No. 1 Roseberry, 330 ft. N, 330 ft. W, SE cor. NW SE, Sec. 19-23-9 ..... W.O.S.R.; 1,600 ft. oil, 90 ft. wtr. in hole; T.D. 2,763 ft.

Magnolia Pet. Co.'s No. 2 Roseberry, 330 ft. N, 330 ft. W, SE cor. NW SE, Sec. 19-23-9 ..... Location.

Woodmansee et als' No. 1 Boyd, 200 ft. S, 200 ft. E, NW cor. SE SW, Sec. 3-22-11 ..... Derrick.

WINN PARISH—URANIA

Gardner, Hunter & Brown's No. 14 Harper, 500 ft. N, 500 ft. E, SW cor. SE SW, Sec. 23-10-1e ..... W.O.S.R.; 1,400 ft. oil in hole; T. D. 1,505 ft.

Gardner, Hunter & Brown's No. 15 Haper, 550 ft. N, 50 ft. E, SW cor. NW NE, Sec. 26-10-1e ..... Derrick.

Gardner, Hunter & Brown's No. 16 Harper, 330 ft. N, 400 ft. E, SW cor. NW NE, Sec. 26-10-1e ..... Derrick.

ARKANSAS

NEVADA COUNTY

C. P. Steele's No. 1 E. W. Groves, Sec. 21-14-20 ..... Cored sandy shale 2,557 ft.

Wright Oil Co.'s No. 4 Groves, Sec. 13-14-21 ..... Waiting on standard rig; T.D. 1,140 ft.

MOUNT HOLLY

Houston Oil Co.'s (was McDonald Bros.') No. 2-A Wilson, 330 ft. S, 330 ft. E, NW cor. NE SW, Sec. 25-15-18 ..... Cmtd. 6⅝-in. 2,756 ft; T.D. 2,761 ft.

Houston Oil Co.'s, was McDonald Bros.' No. 4 B-Wilson, 150 ft. N, 150 ft. E. SW cor. SW NW, Sec. 25-15-18 .. Derrick.

E. M. Jones' No. 1-A Wilson, 150 ft. S, 250 ft. W, NE cor., Sec. 26-15-18 ..... Spudded Aug. 11; cmtd. 10-in. at 145 ft.

E. M. Jones' No. 1-C Allen, 200 ft. N, 200 ft. E, SW cor., Sec. 25-15-18 ..... Location.

OUACHITA COUNTY—SMACKOVER

L. H. Hamilton's No. 1 Arnold & Doyle, SE SE Sec. 23-15-16 ..... Standing 400 ft. in fluid; 23 ft. broken sand; T.D. 2,010 ft.

Magna Producing Co.'s No. 10-B Linahan, NE cor. SE NW, Sec. 36-15-16 ..... W.O.S.R.; 100 ft. fluid from 2⅛-ft. sand; T.D. 2,012 ft.

Magna Producing Co.'s No. 11-B Linahan, 25 ft. NE of No. 10-B, in SW cor. SE NW, Sec. 36-15-16 ..... Spudded Aug. 10; cmtd. 10-in. 41 ft; drlg. 550 ft.

Phillips Pet. Co.'s No. 1 Clayton, 200 ft. N, 250 ft. W, SE cor. NW NE, Sec. 34-15-15 ..... Rig up.

Phillips Pet. Co.'s No. 1 Scott, SE cor. SW NE, Sec. 34-15-15 ..... W.O.S.R; 250 ft. oil; 22 ft. broken sand; T.D. 1,979 ft.

Phillips Pet. Co.'s No. 3 Scott, 250 ft. S, 200 ft. E, NW cor. SW NE, Sec. 34-15-15 ..... Spudded Aug. 8; cmtd. 10-in. 40 ft; drlg. 1,400 ft.

UNION COUNTY—CHAMPAGNOLLE

O. W. Estes' No. 1 Hargett, 200 ft. N, 200 ft. E, SW cor. SW Sec. 13-17-14 ..... Location.

Gann and others' No. 1 Doss, Sec. 10-17-15 ..... Tested S.W; waiting orders; T.D. 3,240 ft.

Gann and others' No. 1 Schmidt, NW NW Sec. 15-17-14. Derrick.

Magnolia Pet. Co.'s No. 1 Gregory, NE cor. SW SW, Sec. 15-17-14 ..... Cmtd. 8⅛-in. 2,833 ft; T.D. 2,841 ft.

Oilwell Corp.'s No. 2-E Perdue, NW NW, Sec. 9-17-15 .. S.D. 3,265 ft.

Pure Oil Co.'s No. 10 E. F. Gregory, 359 ft. W, 123 ft. S, NE cor. SE SE, Sec. 10-17-14 ..... Coring 2,954 ft.

Rovenger Oil Corp.'s No. 3-B Perdue, 330 ft. S, 330 ft. W, NE cor. SE NE, Sec. 9-17-15 ..... Skidded 84 ft. west; cmtd. 10-in. 151 ft; drlg. 2,230 ft.

UNION COUNTY—EL DORADO

J. P. Hawkins' No. 1 Goodwin, Sec. 8-17-15 ..... Tested 3,000,000 ft. gas; show of oil; standing 1,000 ft. in S.W.; fishing for drill stem; T.D. 2,210 ft.

Rice et als' No. 1 W. Raitey, 150 ft. S, 150 ft. E, NW cor. SW, Sec. 7-17-15 ..... Spudded July 18; cmtd. 10-in. at 92 ft.

Weisinger and others' No. 7 Goodwin, Sec. 31-17-15.. Running sand pump; T.D. 2,185 ft.

UNION COUNTY—SMACKOVER

E. L. Chapman's No. 1 Bradley, 510 ft. W, 150 ft. N, SE cor. SW NW, Sec. 2-16-16 ..... Swbng. to test 30 ft. broken sand; T.D. 2,050 ft.

E. M. Jones' No. 1 H. Murphy, 211 ft. S, 211 ft. E, NW cor. Lot 3, NW, Sec. 2-16-15 ..... Location.

A. H. Ramage's No. 1-A James, Sec. 6-16-15 ..... Installing vacuum system; T.D. 1,984 ft.

EAST TEXAS

HARRISON COUNTY

Nick Barbare's No. 1 Abney, NE cor. J. J. Blair Sur. .... Derrick.

Nick Barbare's No. 17 Furrh, Joel Lipscomb Sur. ..... Spudded July 27; cmtd. 10-in. 44 ft; 4½-in. 2,311 ft.

C. H. Lyons' No. 1-A Furrh, Joel Lipscomb Sur. ..... Spudded Aug. 12; cmtd. 10-in. at 42 ft.

Mason et als' No. 1 Dean, J. W. Crofts Sur. ..... Reaming to bottom; T.D. 2,385 ft.

PANOLA COUNTY

T. C. Adams' No. 6 Adams, B. C. Jordan Sur. ..... Derrick.

T. C. Adams' No. 7 Adams, B. C. Jordan Sur. ..... Location.

Ark.-La. Pipe Line Co.'s No. 1 Brumbile, 541 ft. S, 544 ft. W, NW cor. J. Womack Sur., in B. C. Jordan Sur. Rigging up to deepen; T.D. 1,954 ft.

Eureka Nat. Gas Co.'s No. 1 Jeter, 300 ft. S, 300 ft. W, NE cor. John Womack Sur. ..... Spudded Aug. 6; cmtd. 10-in. 82 ft; drlg. 440 ft.

S. H. Gardner's No. 4 Roquemore, 5,176 ft. E, 4,432 ft. S, NW cor. B. C. Jordan Sur. ..... Location.

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Magnolia Pet. Co.'s No. 4 T. C. Adams, E. Jones Sur. ..Coring lime 2,433 ft.
Magnolia Pet. Co.'s No. 16 Carrie G. Steele, B. C. Jordan Sur. ..... Coring lime 2,390 ft; corrected depth.
Magnolia Pet. Co.'s No. 1 Leigh-Trosper, B. Stephenson Sur. ..... Old well drilling deeper; rig up; T.D. 2,618 ft.
Natural Gas Prod. Co.'s No. 1 Mays, 1,550 ft. W, 500 ft. N, SE cor. Jane Thorpe Sur. ..... Spudded July 29; cmtd. 10-in. 100 ft; drlg. 1,600 ft.
Paul C. Warren's No. 1 F. M. McNeese, A. Booker Sur. ..Derrick.

GULF COAST FIELDS AND WILDCATS

(Continued from Page 59)

BOLING—FORT BEND AND WHARTON

Sun Oil Co.'s No. 8 E. C. Farmer ..... Drlg. rock 1,321 ft.
The Texas Company's No. 2 Pleasants, northwest ..... Drlg. sticky shale 3,859 ft.
Vacuum Oil Co.'s No. 3 Taylor, south side ..... Bailed dry; sand 3,940 ft.; pulling screen to deepen.

RACCOON BEND—AUSTIN COUNTY

Humble & Valley's No. 5 Hardy ..... Drlg. sandy shale 3,216 ft.
Humble & Valley's No. 2 Buchanan ..... Cem. casing 3,414 ft.; to test oil sand.
Humble Oil & Refg. Co.'s No. 2-B Mitchell ..... Drlg. sticky shale 2,100 ft.
Humble & Valley's No. 3 Mitchell ..... Derrick.
Humble & Valley's No. 1-B Walton ..... Drlg. plug to test oil sand 3,452 ft.
Humble & Valley's No. 4 Walton ..... Drlg. sticky shale 2,065 ft.
Humble & Valley's No. 5 Walton ..... Derrick.
Humble & Valley's No. 4 Dietrichs ..... Cem. casing to test oil sand 3,307 ft.
Humble & Valley's No. 1 Jackson ..... Swabbing 3,427 ft.
Humble & Valley's No. 2 Jackson ..... Rig.
Humble & Valley's No. 4 Austin College ..... Setting tubing 3,482 ft.; to pump.
Humble & Valley's No. 1 Graneau ..... Location.
Humble & Valley's No. 3 Bellville School ..... Derrick.
Humble & Valley's No. 2 Woodley ..... Drlg. plug to test oil sand 3,116 ft.
Humble & Valley's No. 3 Woodley ..... Derrick.
Humble & Valley's No. 2-A Grawunder ..... Drlg. sandy shale 2,626 ft.
Humble & Valley's No. 3 Grawunder ..... Drlg. shale and lime 501 ft.
Humble & Valley's No. 2-C Grawunder ..... Rig.
Humble & Valley's No. 3 Reese ..... Swabbing 3,516 ft.
Humble & Valley's No. 4 Gotosky ..... Drlg. sand and shale 3,280 ft.
Humble & Valley's No. 2 Sherrill ..... Drlg. shale and lime 1,686 ft.
Humble & Valley's No. 2 Beal ..... Cem. 10¾-in. casing 1,267 ft.
Humble & Valley's No. 3 Payne ..... Drlg. sticky shale 1,095 ft.
Humble & Valley's No. 4 Urban ..... Rig.
Humble & Valley's No. 4 Saunders ..... Derrick.

DE WALT—FORT BEND COUNTY

Humble Oil & Refg. Co.'s No. 5 Nelson ..... Drlg. sand and shale 3,297 ft.
Humble Oil & Refg. Co.'s No. 5 Camp ..... Cem. casing to test 3,305 ft.
Humble Oil & Refg. Co.'s No. 7 Brazos ..... Preparing to resume drilling after blowout and fire; 3,000 ft.
Humble Oil & Refg. Co.'s No. 8 Brazos ..... Rig.
Humble Oil & Refg. Co.'s No. 9 Brazos ..... Cem. surface casing 1,200 ft.
Humble Oil & Refg. Co.'s No. 3 Hamner fee ..... Location.
Humble Oil & Refg. Co.'s No. 5 Hamner fee ..... Set 211 ft. 4½-in. screen 3,597 ft.; flowing 1,200 bbls.
Humble Oil & Refg. Co.'s No. 6 Hamner fee ..... Location.
Humble Oil & Refg. Co.'s No. 7 Hamner fee ..... Cem. casing to test 3,746 ft.
Humble Oil & Refg. Co.'s No. 2-A Bankers Mortgage .... Cem. surface casing 1,201 ft.
Humble Oil & Refg. Co.'s No. 2 Dew Bros. ..... Set 204 ft. screen 3,584 ft.; flowing 600 bbls. oil.
Humble Oil & Refg. Co.'s No. 9 Sugarland ..... Drlg. hard sandy lime 2,930 ft.

HUMBLE—HARRIS COUNTY

Humble Oil & Refg. Co.'s No. 3 Williams ..... Bailing to test oil sand 3,808 ft.
Humble Oil & Refg. Co.'s No. 4 Williams ..... Derrick.
Humble Oil & Refg. Co.'s No. 1 Glass, south ..... Drlg. sandy shale 4,863 ft.
Marland Oil Co.'s No. 1 Cezeaux, south side ..... Standing 4,520 ft.
Navarro Oil Co.'s No. 1 La. Oil Refg. Corp. ..... Rig.
Harvey Smith et al's No. 1 Rosenthall, north side ..... To test oil sand 4,120 ft.
South Texas Petroleum Co.'s No. 7 Morris ..... Drlg. shale 5,103 ft.
South Texas Petroleum Co.'s No. 8 Morris ..... Set 540 ft. 6⅝-in. screen 5,316 ft.; flowing 4,500 bbls. pipe line oil.
South Texas Petroleum Co.'s No. 9 Morris ..... Drlg. shale 4,625 ft.
South Texas Petroleum Co.'s No. 1 Lee, south flank ..... Rig.
Sun Oil Co.'s No. 47 River, north side ..... Drlg. shale 4,745 ft.
The Texas Company's No. 265 Landslide, south ..... Drlg. shale 4,811 ft.
The Texas Company's No. 266 Landslide ..... Drlg. sand and shale 4,330 ft.
The Texas Company's No. 35 Koehler ..... Drlg. sand and shale 4,339 ft.
The Texas Company's No. 23 House ..... Rig.
West Production Co.'s No. 1 Foster ..... Location.

BLUE RIDGE—FORT BEND COUNTY

J. S. Abercrombie's No. 9 West-Schenck, old well ..... Aband. in shale 4,391 ft.
Gulf Production Co.'s No. 16 Luscher ..... Drlg. gumbo and lime 3,049 ft.
Moody Corp.'s No. 8 West-Schenck ..... Set strainer to test 5,138 ft.
Sinclair Oil & Gas Co.'s No. 2 Davison (workover) ..... Strainer stuck 4,632 ft.; aband.
South Texas Petroleum Co.'s No. 1 Lee (workover) ..... Tested salt water 4,790 ft.; to deepen.

PIERCE JUNCTION—HARRIS COUNTY

Abercrombie & Harrison's No. 1 Ritter ..... Drlg. 4,184 ft.; total depth 5,558 ft.
Anderson & Plummer's No. 5 Whitehead, old well ..... Drlg. 3,501 ft.
Gulf Production Co.'s No. 23 Taylor (workover) ..... Rigging up to deepen.
Gulf Production Co.'s No. 29 Taylor (work-over) ..... Drlg. 4,582 ft.
Gulf Production Co.'s No. 30 Taylor, east ..... Drlg. shale 3,701 ft.
Moody Corp.'s No. 2 Calvert, northeast ..... Aband. 4,967 ft.
Navarro Oil Co.-Humble Oil & Refg. Co.'s No. 4 Dooley, east ..... Drlg. gumbo and shale 1,785 ft.
Navarro Oil Co.'s No. 4-B Cain ..... Drlg. sticky shale 4,983 ft.
Rio Bravo Oil Co.'s No. 11 B. Settegast ..... Drlg. hard lime rock 2,032 ft.
Rio Bravo Oil Co.'s No. 8-A Settegast (old well) ..... To pump 4,512 ft.
Rio Bravo Oil Co.'s No. 10-A Settegast (workover) ..... Set 3 joints 4½-in. screen 4,301 ft.; washing.
Rio Bravo Oil Co.'s No. 14-A Settegast, west ..... Repairing rig after fire 5,075 ft.
Saxet Gas Co.'s No. 2 Herman estate, southwest ..... Milling out to sidetrack.
Saxet Gas Co.'s No. 3 Herman estate, southwest ..... Flowed 200 bbls. fluid, 3 per cent b.s. and water, 3,778 ft.; to deepen.
Saxet Gas Co.'s No. 4 Herman (southwest) ..... Derrick.
Saxet Gas Co.'s No. 5 Herman (southwest) ..... Derrick.
J. F. Barron's No. 2 Fitzsimmons ..... Derrick.
Shaw & Texas Exploration Co.'s No. 2-F Fitzsimmons.... Derrick.
T. G. Shaw's No. 1 Dooley ..... Set 2 joints screen 5,523 ft.; swabbed salt water.

LIBERTY—LIBERTY COUNTY

Empire Gas & Fuel Co.'s No. 3 Groggan ..... Oil sand 3,400 ft.; cem. casing.
Empire Gas & Fuel Co.'s No. 4 Goggan ..... Spudded.
Empire Gas & Fuel Co.'s No. 5 Goggan ..... Spudded.
Navarro Oil Co.'s No. 2 Gulf ..... Drlg. shale showing gas 1,465 ft.
Navarro Oil Co.'s No. 5 Baldwin Community ..... Location.
Sun Oil Co.'s No. 46 Mitchell ..... Comp. flowing 300 bbls. oil 3,394 ft.
Sun Oil Co.'s No. 47 Mitchell ..... Drlg. rock 2,985 ft.
Sun Oil Co.'s No. 48 Mitchell ..... Derrick.
Talley & O'Brien's No. 1 Deussen ..... Drlg. shale 1,656 ft.
The Texas Company's No. 3 Pickett ..... Aband. 5,174 ft.

HULL—LIBERTY COUNTY

Empire Gas & Fuel Co.'s No. 27 Barngrover, old well.... Drlg. 3,371 ft.
Gulf Production Co.'s No. 8 Phoenix (workover) ..... To deepen.
Gulf Production Co.'s No. 49 Phoenix, old well ..... Comp. flowing 300 bbls., 40 per cent b.s. and water, 3,124 ft.
Houston Production Co.'s No. 13 Barngrover ..... Location.

Humble Oil & Refg. Co.'s No. 11 Hooks-Spell ..... Drlg. gumbo and lime 2,982 ft.
Republic Production Co.'s No. 35 Dolbear (workover).... Rig up to deepen.
Republic Production Co.'s No. 68 Dolbear (old well)..... Flowing 4,000 bbls., 18 per cent b.s. and water, 2,594 ft.
Republic Production Co.'s No. 99 Dolbear (workover) .... To deepen.
Republic Production Co.'s No. 107 Dolbear (old well).... No report.
Republic Production Co.'s No. 109 Dolbear (workover) ... To deepen.
Republic Production Co.'s No. 114 Dolbear (old well).... No report.
Republic Production Co.'s No. 128 Dolbear (workover) ... To deepen.
Sun Oil Co.'s No. 11 Carr ..... Aband. 687 ft.
The Texas Company's No. 1 Hannah-Vacuum (workover). Bailing 2,976 ft.
The Texas Company's No. 8 Hannah-Vacuum ..... Location.

BIG CREEK—FORT BEND COUNTY

Benedum & Trees' No. 2 Ahlers ..... Comp. flowing 800 bbls., 9 per cent b.s. and water, 3,689 ft.
Gulf Production Co.'s No. 30 Davis (old well) ..... Swabbed salt water 3,627 ft.; to deepen.
Gulf Production Co.'s No. 55 Davis ..... Drlg. 1,721 ft.
The Texas Company's No. 2 Wheat (old well) ..... Drlg. sand and shale 3,967 ft.
Navarro Oil Co.'s No. 4 Davis ..... Location.

NASH—BRAZORIA COUNTY

Rycade Oil Corp.'s No. 26 Wisdom ..... Sandy lime showing oil 4,657-67 ft.

BATSON—HARDIN COUNTY

Acorn Oil Co.'s No. 71 Paraffine ..... Bailed dry 1,112 ft., standing.
Capitol Oil Co.'s No. 11 Hodges ..... Aband. 3,190 ft.
W. G. Christian's No. 2 Millholme ..... Drlg. 1,721 ft.
Paraffine Oil Co.'s No. 46 Paraffine ..... Standing 1,248 ft.

SOUR LAKE—HARDIN COUNTY

Austin et al's No. 1 Watson ..... Location.
Humble Oil & Refg. Co.'s No. 6 Bashara (old well) .... Set strainer 1,979 ft.
Lake View Oil Co.'s No. 62 Hardin ..... Drlg. 451 ft.
United Oil & Fuel Co.'s No. 1 Brown ..... Drlg. 1,253 ft.

SARATOGA—HARDIN COUNTY

Rio Bravo Oil Co.'s No. 79-C ..... Set strainer total depth 1,091 ft.
E. W. Skinner's No. 15 Kirby ..... Shut down 1,502 ft.

ORANGE—ORANGE COUNTY

Gulf Production Co.'s No. 1 Morse-Granger et al (workover) ..... Preparing to deepen.
Orange Petroleum Co.'s No. 8 Winfree (old well) ..... Rig up to deepen.
Rex Petroleum Co.'s No. 7 Carbello, old well ..... Comp. pumping 75 bbls. net oil 3,342 ft.
Tillery Oil Co.'s No. 2 State (workover) ..... Comp. flowing 300 bbls. net oil 3,116 ft.

GOOSE CREEK—HARRIS COUNTY

Russell Ferrell's No. 4 Gillette (workover) ..... To deepen.
Gulf Production Co.'s No. 25 Ashbel Smith (workover) ..... Drlg. 3,427 ft.
Humble Oil & Refg. Co.'s No. 75 Simms-Smith ..... Trying to sidetrack, total depth 5,243 ft.
C. T. Rucker's No. 1 Jones ..... Drlg. 1,611 ft.
Lake Shore Oil Co.'s No. 4 Duke ..... Drlg. 2,410 ft.
Lee & Scott's No. 3 Scott ..... Drlg. 1,340 ft.
Jim McMurry's No. 3 Grace Addey (old well) ..... Drlg. 2,799 ft.
Lube Well Oil Co.'s No. 1 Dannenbaum, old well ..... Set strainer 1,607 ft.
Newton & Lillie's No. 3 Schilling, old well ..... Rig up to deepen.

SPINDLETOP—JEFFERSON COUNTY

Sun Oil Co.'s No. 11 McLean (workover) ..... Drilling.
Yount Lee Oil Co.'s No. 69 McFaddin (workover) ..... Comp. flowing 300 bbls. 3,136 ft.
Yount Lee Oil Co.'s No. 108 McFaddin ..... Comp. flowing 1,200 bbls. 3,700 ft.
Yount Lee Oil Co.'s No. 109 McFaddin ..... Fishing liner 3,908 ft.
Yount Lee Oil Co.'s No. 110 McFadden ..... Drlg. shale and lime 3,931 ft.
Yount Lee Oil Co.'s No. 111 McFaddin ..... Drlg. sand and shale 3,140 ft.
Yount Lee Oil Co.'s No. 112 McFaddin ..... Drlg. shale 3,403 ft.
Yount Lee Oil Co.'s No. 113 McFaddin ..... Drlg. shale and lime 3,492 ft.
Yount Lee Oil Co.'s No. 95 Gladys City, old well ..... Set screen 3,566 ft., oil sand.
Yount Lee Oil Co.'s No. 2 Fee ..... Set screen 4,001 ft., oil sand.

WEST COLUMBIA—BRAZORIA COUNTY

Humble Oil & Refg. Co.'s No. 3 Smith ..... Drlg. 2,996 ft.
Marland Oil Co.'s No. 1 Hogg ..... Rig.
Saxet Oil Co.'s No. 1 Hogg ..... Drlg. hard sand and lime 2,062 ft.
Saxet Oil Co.'s No. 1 Masterson ..... Rig.
The Texas Company's No. 24 Arnold ..... Cem. 6⅝-in. casing 2,836 ft.

HIGH ISLAND—GALVESTON COUNTY

Gulf Production Co.'s No. 4-A Smith ..... Rig.
Marrs McLean's No. 6 Cade (old well) ..... To deepen.
Marrs McLean's No. 15 Cade ..... Drlg. 3,798 ft.
Marrs McLean's No. 16 Cade ..... Rig.

DAMON MOUND—BRAZORIA COUNTY

Cullen & West's No. 1 Smith ..... Shut down in heaving shale 4,543 ft.
Sinclair Oil & Gas Co.'s No. 6 Norton ..... Set screen 3,865 ft.; to test.
Leonard Petroleum Co.'s No. 4 Wisdom ..... Pulled stuck drill stem 3,320 ft.; to resume drilling.

ORCHARD—FORT BEND COUNTY

Gulf Prod. Co.'s No. 19 Moore ..... Drlg. hard sand and lime 4,137 ft.

NORTH DAYTON—LIBERTY COUNTY

Fort Bend Oil Co.'s No. 1 Ballarack ..... Shut down 4,650 ft.
Harrison Oil Co.'s No. 4 Quintette ..... Set screen to test oil sand 4,034-68 ft.

REFUGIO—REFUGIO COUNTY

George Ball's No. 1 Terrell (workover) ..... No report.
Morgan Oil Corp.'s No. 1 City ..... Drlg. sand 3,563 ft.
Morgan Oil Corp.'s No. 1 Fox heirs ..... Rig.
Hewitt et al's No. 1 Cemetery ..... Derrick.
Houston Gulf Gas Co.'s No. 5 Ryals ..... Cem. 8¼-in. casing 3,668 ft.; oil sand 3,671-76 ft.
Houston Gulf Gas Co.'s No. 6 Shelly ..... Oil sand 5,060-70 ft.; to set 5 3/16-in. casing.
Houston Gulf Gas Co.'s No. 3 Rose Lambert ..... Waiting cement to set 3,648 ft.
Houston Gulf Gas Co.'s No. 5 O'Brien ..... Cem. 12½-in. casing 462 ft.
Houston Gulf Gas Co.'s No. 2 Rooke ..... Cleaned hole 4,530 ft.; to deepen.
Houston Gulf Gas Co.'s No. 1 Buckley ..... Fishing drill pipe 2,680 ft.
Houston Gulf Gas Co.'s No. 1 Morgan-Skelly ..... Drlg. sandy lime 1,975 ft.
Houston Gulf Gas Co.'s No. 1 Vance ..... Rig.
Korona Oil Co.'s No. 1 West ..... Rig.
Korona Oil Co.'s No. 2 Reilly ..... Rig.
Mission Drlg. Co.'s No. 1 O'Brien ..... Drlg. shale 4,519 ft.
Mission Drlg. Co.'s No. 2 Powers ..... Drlg. limey sand 3,959 ft.
Mission Drlg. Co.'s No. 1 J. F. B. Heard ..... Total depth 4,630 ft.; plugged to 3,630 ft.; cem. 8¼-in. casing.
Mission Drlg. Co.'s No. 2 J. F. B. Heard ..... Drlg. 501 ft.
Mission Drlg. Co.'s No. 2 Skelly ..... Derrick.
Mission Drlg. Co.'s No. 1 Strauch ..... Drlg. 275 ft.
Mission Drlg. Co.'s No. 1 Fox (workover) ..... Deepened from 3,675 ft. to 3,678 ft.; reset screen.
Benedum & Trees' No. 4 Clint Heard ..... Putting on gas lift 3,695 ft.
Saxet Oil Co.'s No. 1 Serafine ..... Derrick.
Saxet Oil Co.'s No. 1 City ..... Rig.
Saxet Co.'s No. 5 Clint Heard ..... Blew in as gas well 3,667-74 ft.; killed gas to deepen.
Saxet Co.'s No. 9 Claude Heard ..... Drlg. rock 1,440 ft.
Houston Oil Co.'s No. 2 Rea ..... Drlg. shale 2,494 ft.
Houston Oil Co.'s No. 6 Wilson Heard ..... Swabbed salt water 3,692 ft.; to sidetrack.
Houston Oil Co.'s No. 8 Wilson Heard ..... Rig.
Blanco Creek Oil Co.'s No. 1 St. Johns ..... Shut down 3,700 ft.
W. L. Pearson, trustee, No. 2 Fox ..... Derrick.
W. L. Pearson, trustee, No. 1 Simpson ..... Cem. surface casing 500 ft.
Sun Oil Co.'s No. 2 Rea ..... Comp. as gas well spraying 23 bbls. oil 3,654-78 ft.; now flowing 200 bbls. pipe line oil on 5/16-in. choke.
Sun Oil Co.'s No. 2 Buckley ..... Rig.
Sun Oil Co.'s No. 1 Lietiring ..... Derrick.
Sun Oil Co.'s No. 1 Johnson ..... Derrick.
Texas Gas Co.'s No. 1 Rogers ..... Shut down for water 3,090 ft.
Union Exploration Co.'s No. 2 Rooke ..... Drlg. gumbo 1,945 ft.

Westinghouse 1½-kw. Rig Lighter

Westinghouse 3-kw. Rig Lighter

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SOUTH LOUISIANA FIELDS

LOCKPORT—CALCASIEU PARISH

Shell Petroleum Corp.'s No. 1 Miller ..... Drlg. sandy shale 6,692 ft.
Vacuum & Gulf's No. 15 Miller ..... Tested salt water 4,370 ft.; side-tracking 3,447 ft.
Vacuum & Gulf's No. 2 State ..... Drlg. sticky shale 4,476 ft.
Vacuum Oil Co.'s No. 7 Bordages ..... Drlg. rock 3,449 ft.
Vacuum Oil Co.'s No. 3-A fee ..... Drlg. sticky shale 2,956 ft.

HACKBERRY—CAMERON PARISH

Calcasieu Oil Co.'s No. 7 Dorion, East Hack erry ..... Location.
Calcasieu Oil Co.'s No. 2 Lemke, East Hackberry ..... Aband. 4,003 ft.
Calcasieu Oil Co.'s No. 15 Watkins, East Hackberry ..... Set screen 3,967 ft.; bailing.
Fraim Oil Co.'s No. 1 Duhon, Old Hackberry ..... Standing 4,384 ft.
Rycade Oil Corp.-Humble Oil & Refg. Co.'s No. 3 Gulf Land, Old Hackberry ..... To test oil sand 3,850-82 ft.
Sunshine Oil Co.'s No. 2 Ellender, Old Hackberry ..... Comp. flowing 500 bbls. 3,253 ft.
The Texas Company's No. 5-B Calcasieu Lake, East Hackberry ..... Fishing 3,855 ft.
Yount Lee Oil Co.'s No. 9 School Land (Old Hackberry) .. Coring 4,138 ft.

JENNINGS—ACADIA PARISH

Fred Getty's No. 3 Jennings-Clemont ..... Location.
Kathleen Oil Co.'s No. 1 Syndicate fee ..... Drlg. 3,417 ft.
E. L. Meyers' No. 1 Clemont-Zigler (old well) ..... To work over 1,805 ft.
The Texas Company's No. 5 Rayne Heirs (King tract) .... No report.
Yount Lee Oil Co.'s No. 4 Crowley, northeast flank, Section 48-9s-2w ..... Waiting drill stem; cement setting 7,546 ft.
Yount Lee Oil Co.'s No. 5 Crowley, Sec. 48-9s-2w ..... Location.
Yount Lee Oil Co.'s No. 7 Houssiene-Latrielle, Sec. 47-9s-2w ..... No report.

EDGERLY—CALCASIEU PARISH

C. M. Crotty's No. 15 Lillard ..... Set casing to test oil sand 1,896 ft.
Rex Petroleum Co.'s No. 10 Hunter ..... Comp. flowing 1,500 bbls., 5 per cent b.s., 4,335 ft.

VINTON—CALCASIEU PARISH

Gulf Refining Co.'s No. 48 Star Vincent, Sec. 34-10s-12w .. Drlg. 1,021 ft.
Salt Dome Oil Co.'s No. 2 Shaw ..... Rigging up to pump 2,859 ft.
Vinton Petroleum Co.'s No. 14 Gray (work-over) ..... Aband 2,659 ft.
Vinton Petroleum Co.'s No. 9 Rescue (9 acres) ..... Drlg. 3,123 ft.

BAYOU BOUILLON—ST. MARTIN PARISH

Rycade Oil Corp.'s No. 7 Bouillon fee ..... Drlg. hard sandy shale 4,228 ft.
Rycade Oil Corp.'s No. 3 State (former well) ..... Cleaned hole; to resume drilling 3,583 ft.

SORRENTO—ASCENSION PARISH

Gulf Refining Co.'s No. 15 United, Sec. 22-10S-4e ..... Drlg. 4,612 ft.

STARKS—CALCASIEU PARISH

Gulf Refining Co.'s No. 15 Lutcher-Moore ..... Aband. in heaving shale 6,134 ft.
Gulf Refining Co.'s No. 13 Industrial ..... Drilling shale 7,207 ft.

SULPHUR—CALCASIEU PARISH

Union Sulphur Co.'s No. 736 fee ..... Fishing drill pipe 6,064 ft.
Union Sulphur Co.'s No. 746 fee, Sec. 29-9s-10w ..... No report.
Union Sulphur Co.'s No. 749 fee, Sec. 29-9s-10w ..... No report.

SWEET LAKE—CAMERON PARISH

Pure Oil Co.'s No. 7 Yount Lee ..... Repairing rig; bottom of hole 6,174 ft.
Pure Oil Co.'s No. 8 Yount Lee ..... Shut down.

ANSE LA BUTTE—ST. MARTIN PARISH

Yount Lee Oil Co.'s No. 5 Louisiana Pet. Co. ..... Comp. flowing 900 bbls. 32.5 gravity oil; now dead.

MISCELLANEOUS WILDCATS

TEXAS

AUSTIN COUNTY

Whittington et al's No. 1 Lass, 4 miles northwest of Bellville ..... No report.

BRAZORIA COUNTY

Thomas Faust et al's No. 4 fee ..... Aband in red gumbo 1,302 ft.
Empire Gas & Fuel Co.'s No. 3 Brock Stratton Ridge .... Drill stem stuck; aband. 4,910 ft.

CHAMBERS COUNTY

Chicago Oil Corp.'s No. 1 Lawrence ..... Shut down in gumbo 1,200 ft.
Layne et al's No. 1 Fitzgerald ..... Shut down in rock 2,635 ft.
Pure Oil Co.'s No. 3 Mayes, Lost Lake ..... Losing returns; porous sandy lime 2,464-68 ft.

FORT BEND COUNTY

Gulf Production Co.'s No. 12 Trone, Long Point ..... Drlg. sticky shale 3,913 ft.
Grayburg Oil Co.'s No. 1 Ranson ..... Shut down in sand 2,922 ft.
Humble Oil & Refg. Co.'s No. 1 Miller, Rosenberg ..... Drlg. hard shale and lime 5,356 ft.

HARRIS COUNTY

Baldwin and associates' No. 1 Kitzman, Cypress ..... Standing 4,055 ft.
Gulf Crest Oil Co.'s No. 1 Gulf Crest ..... Derrick.
A. F. Belunek's No. 1 Thompson ..... Started drilling.
Humble Oil & Refg. Co.'s No. 6 Warren Hockley ..... Drlg. hard sandy lime 1,846 ft.
Humble Oil & Refg. Co.'s No. 2 Irvin ..... Tested showing gas 4,189 ft.; standing.
Humble Oil & Refg. Co.'s No. 1 Woodburn, Genoa ..... Drlg. hard shale and lime 4,345 ft.
Paxton et al's No. 1 Brown, Wooster ..... Standing.
York & Robertson's No. 1 Garrett, Harris & Carpenter Survey ..... No report.

JEFFERSON COUNTY

Bleakie Oil Co.'s No. 1 Tolliver, Dyches Survey ..... Shut down 2,800 ft.
Deep Test Oil Corp.'s No. 1 Faith-McFadden ..... Shut down 3,706 ft.
Gulf Production Co.'s No. 3 Burrell Fannette ..... Drlg. sand 2,689 ft.
Gulf Production Co.'s No. 1 Junker, Fannette ..... Rig.
Gulf Production Co.'s No. 7 Bordages, Fannette (work-over) ..... Comp. flowing 100 bbls. oil 5,675 ft.
Gulf Production Co.'s No. 11 Thomas, Fannette (work-over) ..... Rigging up to pump 5,636 ft.
River Oil Corp.'s No. 1 Ship Channel, Brown Survey .... No report.
Shell Petroleum Corp.'s No. 1 Heisig, Hampshire ..... Drlg. hard sandy lime 6,149 ft.
The Texas Company's No. 2 Pipkin, Big Hill ..... Drlg. sand and shale 2,180 ft.
The Texas Company's No. 1 Burrell, Fannette ..... Location.
Vacuum Oil Co.'s No. 1 Herbert-Broussard, T.&N.O. Survey No. 208 ..... Drlg. gumbo and lime 2,257 ft.
Westbury Oil Co.'s No. 1 West ..... No report.

LIBERTY COUNTY

Gulf Production Co.'s No. 2 Boyt Hankamer ..... To test sand and shale showing oil 3,110 ft.
Humble Oil & Refg. Co.'s No. 6 Sterling, Moss Bluff ..... Rig.
Harvey Smith and associates' No. 1 Moore's Bluff, Brunson Sur. ..... Comp. flowing 500 bbls. pipe line oil from sand 3,304-20 ft.; gravity 23.3 degrees (corrected).
Pure Oil Co.'s No. 1 Liberty, Moss Bluff ..... Drlg. lime rock 3,997 ft.
Union Exploration Co.'s No. 3 Esperson, Sheeks ..... Set 9¼-in. casing 1,809 ft.; to test oil sand 1,817-20 ft.
Union Exploration Co.'s No. 1 Vajdak, Sheeks ..... Location.

MATAGORDA COUNTY

Crossland and associates' No. 1 Hawkins, Shepherds Mott. Set 100 ft. 4½-in. screen 4,350 ft., tested salt water; waiting orders.

MONTGOMERY COUNTY

Kelley-Baker et al's No. 1 Juerges ..... No report.

ORANGE COUNTY

Gulf Production Co.'s No. 1 Starks, Port Neches ..... Rig.
The Texas Company's No. 1 Polk, Port Neches ..... Derrick.
The Texas Company's No. 1 Starks, Port Neches ..... Drlg. gumbo 1,198 ft.
Veteran Oil Co.'s No. 1 Reed, A. Nelson Survey ..... Aband. 4,500 ft.

WALLER COUNTY

Kirby Petroleum Co.'s No. 1 Vaughn, San Felipe ..... Repairing derrick to deepen 3,005 ft.

SOUTH LOUISIANA

ASCENSION PARISH

Pickard & Geisman's No. 1 Desire Breaux, Darrow ..... Shut down 3,778 ft.
Big Dome Drlg. & Dev. Co.'s No. 1 Reardom, Darrow .... Total depth 4,747 ft.; standing with casing collapsed.
Triumph Oil Corp.'s No. 2 Lacey, Sec. 29-10s-4e ..... No report.

CALCASIEU PARISH

Wilfred LaHay's No. 2 James, Section 14-10s-13w ..... Shut down 3,365 ft.
J. O. Davis' No. 1 Mims, Section 20-9s-7w ..... Standing 5,600 ft.

CAMERON PARISH

Shell Petroleum Corp.'s No. 11 Watkins, Black Bayou .... Drlg. lime and shale 1,464 ft.
Shell Pet. Corp.'s No. 12 Watkins, Black Bayou ..... Cem. casing 2,052 ft.
Shell Pet. Corp.'s No. 13 Watkins, Black Bayou ..... Location.
Shell Pet. Corp.'s No. 1 Marceaux, Mallard Bay, Section 32-12s-3w ..... Building derrick.
The Texas Company's No. 4-A Calcasieu Lake, Calcasieu Lake Dome ..... Building derrick.

EVANGELINE PARISH

The Texas Company's No. 1 Guillory, Pine Prairie ..... No report.

IBERIA PARISH

Jefferson Lake Oil Co.'s No. 2 Lake Peigneur, Jefferson Island ..... Rig.
The Texas Company's No. 4-A Vermillion Bay ..... Building derrick.
Gulf Refg. Co.'s No. 10-Z State, Loreauville ..... No report.

IBERVILLE PARISH

Shell Petroleum Corp.'s No. 3 Wilbert, White Castle ..... Drlg. hard shale 5,962 ft.
Standard Oil Co.'s No. 3 Wilbert, Bayou Blue ..... No report.
Standard Oil Co.'s No. 2 Schwing, Bayou Blue ..... No report.
Standard Oil Co.'s No. 3 Schwing, Bayou Blue ..... Location.
Standard Oil Co.'s No. 4 Schwing, Bayou Blue ..... Location.
Standard Oil Co.'s No. 5 Schwing, Bayou Blue ..... Derrick.

JEFFERSON DAVIS PARISH

Vacuum Oil Co.'s No. 2 DeVilbiss, Roanoke ..... Drlg. sand 3,175 ft.

PLAQUEMINE PARISH

The Texas Company's No. 2 Garden Island Bay, Sec. 107-23s-32e ..... No report.
Humble Oil & Refg. Co.'s No. 1 State, Sec. 2-20s-26e ..... Rig.
Humble Oil & Refg. Co.'s No. 1 Lake Washington, Township 20s-26e ..... Location.

ST. BERNARD PARISH

St. Bernard Oil & Gas Co.'s No. 1 fee, Sec. 15-14s-15e .... Shut down 726 ft.

ST. MARTIN PARISH

Ohio Oil Co.'s No. 3 Martin, Hager Dome ..... Standing 4,490 ft.
The Texas Company's No. 1 fee, Hager Dome ..... Shut down.
The Texas Company's No. 3 St. Martin, Hager ..... Rig standing.

ST. TAMMANY PARISH

St. Tammany Oil Co.'s No. 2 Fritchie, Sec. 35-8s-14e .... Drlg. 2,306 ft.

TANGIPAHOA PARISH

Completion Oil Co.'s No. 1 Amos ..... No report.
Joan Development Co.'s No. 1 Hilton, Sec. 20-9s-9e ..... Shut down 3,985 ft.

TERREBONNE PARISH

The Texas Company's No. 2-A Dog Lake Bayou, 400 ft. south of No. 1 ..... Derrick.
The Texas Company's No. 1-B Dog Lake, Sec. 6-22s-16e ... Set 9¼-in. casing in gumbo 723 ft.
The Texas Company's No. 1 Taylor, East Bay Junop Dome ..... Set 20-in. surface casing in sticky shale 140 ft.
The Texas Company's No. 2-A Lake Barre, Section 30-21s-20e ..... Drlg. sticky shale 1,850 ft.
The Texas Company's No. 2-B Bay Coon Road, Sec. 17-22s-18e ..... Set 12½-in. casing 611 ft.
The Texas Company's No. 3-B Bay Coon Road, Sec. 17-22s-18e ..... Location.
The Texas Company's No. 2 La. L. L. & E. Co., Four Isle .. Building foundations.

WILDCAT OPERATIONS IN SOUTHWEST TEXAS

(Continued from Page 60)

DUVAL COUNTY

Magnolia Petroleum Co.'s No. 1 Corbett, Sur. 96 ..... Drlg. 3,115 ft.
National Oil Co.'s No. 2 Ball, Agua Poquita Sur., Blk. 3 .. Derrick.

EDWARDS COUNTY

A. M. Griffith's No. 1 Wardlaw ..... Fishing 2,600 ft.

FAYETTE COUNTY

Magnolia Petroleum Co's No. 1 Henry Gully ..... Drlg. 2,920 ft.
National Oil Co.'s No. 1, A. Hanger Williams League ... Drlg. 800 ft.
W. J. Kelly's No. 1 Burke ..... Changing to heavier rig 280 ft
Marshall & Moore's No. 1 John A. Kerr ..... Drlg. 2,485 ft.

GOLIAD COUNTY

Mission Drlg. Co.'s No. 3 Roy Rand, 3 miles E of No. 2. This formerly carried in Bee County, Pettus Pool ... Core shows oil 4,003 ft.
Western Union Oil Co.'s No. 1 Lucas, Juan Moya y Delgado Sur. ..... Location.

GONZALES COUNTY

Joe Bruner's No. 1 R. D. and J. C. Miller ..... Shut down 2,712 ft.
Crown Petroleum Co.'s No. 1 Hattenback ..... Shut down 2,330 ft.
Finnell & Elam's No. 1 Robinson, Liverpool Survey ..... Shut down 1,260 ft.
Hoffman and others' No. 1 Booker, J. Stewart Sur. .... Shut down 410 ft.
Linderman Brothers' No. 1 F. H. Frampton ..... Shut down 1,160 ft.
Fort Bend Oil Co.'s No. 1 C. E. Ham ..... Shut down 2,670 ft.
Frank Sorrell's No. 2 Wilkenson ..... Standing 174 ft

GUADALUPE COUNTY

Burgess' No. 1 Lennen ..... Drlg. 1,820 ft.; shale.
J. G. Kifer's No. 1 B. B. Dix ..... Drlg. 1,400 ft.
Sights et al's No. 1 S. Hensel ..... Derrick.
Sinclair Oil & Gas Co.'s No. 1 Ed Tewes ..... Drlg. 1,785 ft.
L. W. Stieren's No. 1 S. H. Herman, Ragsdale Survey ... Standing 1,233 ft.
R. R. Penn's ..... Set casing 2,418 ft.
Adams-Lyles-Walton's No. 1 Zoluroski, Jesus Cantu Sur ... Shut down 975 ft.

HAYS COUNTY

E. A. Bucklin's No. 1 ..... Moving in machinery.

JIM HOGG COUNTY

Deep Rock Oil Co.'s No. 1 Kelsey ..... Drlg 300 ft.

JIM WELLS COUNTY

E. W. Ogden's No. 1 G. Farris, M. Perez Sur. ..... Drlg. 610 ft.
Magnolia Pet. Co.'s No. 1 C. Cook, W. H. Sartain Sur., Blk. 45 ..... Rigging up.

KARNES COUNTY

L. B. Flowers' No. 1 R. L. Barnett, 4 mi. NE Karnes City. Spudded in.
Hurador Oil Co.'s No. 1 W. E. Porter .... Drlg. 2,160 ft.
Scott Townsend and others' No. 1 Ruckman ..... Standing 2,500 ft.

KERR COUNTY

L. R. Page and Associates' No. 1 Real .... Drlg. 3,154 ft.

KIMBLE COUNTY

Carl L. Bryant's No. 1 C. E. Lambert ..... Drlg. 150 ft.
H. A. McLean & Jamison's No. 1 R. F. Cannon ..... Shut down 995 ft.
J. B. Lindsay's No. 1 G. C. Anderson ..... Drlg. 785 ft.

KINNEY COUNTY

Lloyd Oil Co.'s No. 1 G. B. Moore, Survey 117 ..... Set csg. 1,653 ft.; total depth 1,675 ft.

LASALLE COUNTY

J. G. Nix's No. 1 Coleman, Survey 48 ..... Standing 500 ft.

LIVE OAK COUNTY

Dr. Frank Lynch's No. 1 Secrest, Simmons Tracts ..... Drlg. 770 ft.

MAVERICK COUNTY

Ryan Consolidated Petroleum Co.'s No. 2 Indio Ranch .... Drlg. 5,266 ft.
Rycade Oil Co.'s No. 3 Chittim ..... Drlg. 5,100 ft.
Rycade Oil Corp.'s No. 4 J. M. Chittim ..... Drlg. 4,250 ft.
Rycade Oil Co.'s No. 4 Sullivan ..... Drlg. 4,225 ft.
Rycade Oil Corp.'s No. 5 Chittim ..... Clearing land for rig.
The Texas Company, 5 miles west Darling Switch ..... Drlg. 600 ft.

MEDINA COUNTY

Zig Zag Oil Co.'s No. 1 San Antonio Irrig., Kemp. Sur ... Drlg. 2,121 ft.
Pat Armstrong's No. 1 C. W. Butts ..... Derrick.
California-Medina's No. 1 Rothe ..... Drlg. 3,426 ft.
Pearson Oil Co.'s No. 3 Irrigated Farms, Lot A-1, Blk. 3 ..... Abandoned dry.
Trapshooter Reilly Oil & Royalties Co.'s No. 1 Adams, L. Fritz Sur. ..... Spudded in.

MILAM COUNTY

J. M. Burkhead's No. 1 C. Weigham ..... Drlg. 1,967 ft.
E. L. Chapman's No. 1 Johnson, J. J. Acosta Sur. ..... Shut down 1,385 ft.
E. L. Chapman's No. 1 E. G. Knight ..... Made drill stem test; tested dry

Diggs and others' No. 1 Nolen .....Derrick.
Hill & Bonwell's No. 1 B. Booher, James Welch Survey..Drill stem stuck; 2,007 ft.
Lloyd Oil Corp.'s No. 1 Camp, Acosta Sur. .....Derrick.
Lloyd Oil Corp's No. 1 San Clement, Fakes Sur. .....Location.
Wilson and others' No. 1 Johnson & Stiles.....Location.
Elbert Williams' No. 1 Tom Shigut.....Drlg. 2,833 ft., in Buda.
Miam Oil & Gas Co., 4 miles southeast of Rosebud.....Drlg. 600 ft.
J. W. Stiff's No. 1 M. Winston, J. Leal Sur. .....Location.
A. H. Wray's No. 1 D. D. Fowler.....Setting casing 303 ft.

McMULLEN COUNTY

Natt Holman's No. 1 Shiner, H. M. Brewer Survey.....Drlg. 1,057 ft.

NUECES COUNTY

Nueces River Basin Dev. Co.'s No. 1 F. C. Allen.....Drlg. 2,160 ft.; total depth 3,780 ft.; drlg. out bridge out of old hole and are now making new hole.
Pearson and others' No. 1 Bluntzer.....Standing 3,507 ft.
R. & G. Corp.'s No. 1 Emily Wright Perkins.....Standing 3,510 ft.
R. & G. Corp.'s No. 1 Roberts.....Location.
R. & G. Corp.'s No. 1 Ragland.....Standing 3,003 ft.
Trinity Drillers and Sun Co.'s No. 1 Tompkins .....Set surface casing 450 ft.

SAN PATRICIO COUNTY

Magnolia Petroleum Co.'s No. 1 C. Freeman, Sec. 57 ....Drlg. 2,832 ft.
Houston Gulf Gas Co.'s No. 2 Welder.....Drlg. 4,792 ft.

STARR COUNTY

Smith & Adams' No. 1 Welch, Pedernal Sur. ..... Drlg. 200 ft.
Ohio Oil Co.'s No. 1 Bass, Por. 76, Blk. 71 .....Drilling.
Milam Drlg. Co.'s No. 5 R. Allen, Blk 147 .....Location.
U. S. Oil & Gas Co.'s No. 1 Kelsey, Por. 76, Blk. 11 .....Standing.

TRAVIS COUNTY

J. W. Allen's No. 1 McAngus, Westbrook Sur. .....Location.

WEBB COUNTY

G. S. Lumpkin's No. 1 H. Yeager, Por. 33-34-35 .....Location.
Usher Carson's No. 3 D. Benavides, Sur. 1,613 .....Resumed drlg. 1,005 ft.

WILLIAMSON COUNTY

J. C. Hawkins, 1½ miles northwest discovery well.....Location.

WILSON COUNTY

R. M. Sherer's No. 1 Tummilson, A. Trevena Sur. .....Drlg. 457 ft.
Grayburg Oil Co.'s No. 1 Tigler, Parrott Sur. .....Drlg. 1,550 ft.
R. M. Sherer's No. 1 First State Bank of Stockdale, Moran Sur. .....Drlg. 200 ft.

ZAPATA COUNTY

Hill et al's No. 1 A. O. de Vela, Blk. 30, El Grullo Sur. .....Location.
National Oil Co.'s No. 1 D. B. Adams .....Standing 690 ft.
Buck & Coursey's No. 1 Garza, Blk. 47 .....Drlg. 1,474 ft.
Buck & Coursey's No. 1 Trevino, Sur. 1 .....Drlg. 450 ft.

ZAVALA COUNTY

Tritex Oil Co.'s No. 1 Clay Burns.....Drlg. 780 ft.
Tritex Oil Co.'s No. 4 West.....Drlg. 795 ft.
Tritex Oil Co.'s No. 1 Childress.....Drlg. 1,095 ft.

KANSAS FIELDS

(Continued from Page 54)

where it swabbed 412 bbls. in 24 hours. The discovery well of the same company, the No. 1 Community, made 947 bbls. on the same day.

Hammond & Stout's No. 1 Roeder, SW cor. NW Section 23-27-2w, Sedgwick County, is drilling in the Simpson lime at 4,040 feet, having found the top at 4,028 feet. This wildcat found water in the chat. It will be drilled to the Wilcox sand horizon.

Tidal Oil Co. has a hole full of water in the Simpson lime in their No.1, located in the SW cor. SE Section 31-25-2, Sedgwick County. The top of the lime was found at 3,430 feet. The test is shut down.

Bu-Vi-Bar Petroleum Corp. and others' No. 9 Shawver, SW cor. NE NW Section 7-26-1, Sedgwick County, made 294 bbls. the first 24 hours from the Simpson lime at 3,365-70 feet.

Barton County

T. B. Slick and others moved the rig in for No. 1 Sweeney, SW cor. NE, Section 23-17-11w.

Butler County

J. H. Edem and others' No. 1 Fowler, SE cor. SW SE, Section 35-23-4, is drilling at 1,300 feet. E. W. Marland, Inc., made location for No. 1 Harrison, SW cor. NW, Section 22-27-3. Empire Oil & Refining Co.'s No. 11 Cranston, SW cor. NE SE, Section 22-27-5, has been completed for 265 bbls. in sand at 2,724-69 feet.

The Prairie Oil & Gas Co. made location for No. 1 Seymour, NE cor. NW, Section 6-27-8.

Cowley County

Mid-Kansas Oil & Gas Co. made location for No. 1 Harris, NE cor. Section 30-31-6.

Ellis County

Jamot Brown and others made location for No. 2 Gerstner, NE cor. Section 13-13-18w. Stearns & Streeter made location for No. 1 Leiker, SW cor. NE, Section 26-13-20w.

Elk County

Croft & Frazier moved a machine in for No. 1 Woodward, C NW NW, Section 32-30-11. Minnehoma Oil Co. and Murphy made location for No. 5 Ferguson, C NW SW, Section 3-31-8. Pure Oil Co.'s No. 16 Chaffin, NW cor. SW NW SE, Section 14-31-10, is drilling at 1,670 feet.

McPherson County

McPherson Oil & Gas Development Co. made location for No. 1 Sorenson, C SE, Section 23-18-2w. Dixie Oil Co. and Amerada Petroleum Corp. made location for No. 1 Flook, SW cor. SE NW, Section 1-20-2w. H. Travers and others made location for No. 1 Cornelson, SW cor. Section 7-21-4w.

Galt Brown Oil Co. and others' No. 1 Fross, C NE, Section 18-17-1w, is dry and abandoned at 3,371 feet. Tatlock and others' No. 1 Hoyer, C SW NE, Section 32-20-1w, has been abandoned at 3,612 feet. Helmerick & Payne's No. 1 Rieser, NE cor. SE SW, Section 23-21-2w, is a dry hole at 3,506 feet.

Marion County

American Oil & Refining Co. has the rig on the ground for No. 1 Urie, SW cor. NW, Section 10-17-3.

Morris County

Loomis and others made location for No. 1 Gentes, CNL NE SE. Section 16-16-7.

Greenwood County

Theta Oil Co.'s No. 1 Storrer, SE cor. NE SW, Section 15-22-1w, is drilling at 400 feet. The Texas Company is building the rig for No. 8 Edwards "C," SW cor. SE, Section 21-23-11. Phillips Petroleum Co. moved the rig in for No. 3 Beal, NW cor. NE, Section 28-23-11. Polhamus and International Oil Co.'s No. 1 Hill, NW cor. SW NW, Section 26-24-9, is spudding. Houston-Oklahoma Oil Co. has a machine on the location for No. 1 Hout, SE cor. SW SW, Section 11-24-12. Parish and others made location for No. 1 Johnson, NE cor. SW, Section 22-24-12. Lassen and others' No. 2 Carrington "B," CSL SW NE, Section 6-25-9, is spudding. Murphy and others made location for No. 8 Olson, NE cor. NW SE, Section 6-25-9.

Smith & Polhamus' No. 1 Cook, SE cor. NW, Section 10-24-10, is dry and abandoned at 2,630 feet. Empire Oil & Refining Co.'s No. 2 Hoggett, SE cor. NW, Section 9-25-13, has been completed for 100 bbls. in sand at 1,529-46 feet. Bisango and others' No. 2 Ralston, SW cor. NE, Section 9-25-13, made a 25-bbl. well in sand at 1,520-35 feet. Mohawk Oil Co.'s No. 5 Grundy, C SW NW, Section 7-27-11, is dry and abandoned at 2,275 feet.

The Prairie Oil & Gas Co. made location for No. 3 Webber, CWL NW SE, Section 9-25-13. No. 2 Webber, NW cor. SE, Section 9-25-13, made 225 bbls. in sand at 1,470-97 feet.

Saline County

Kenny Coastal Co.'s No. 1 Deil, C NW, Section 23-14-5w, is dry and abandoned at 4,005 feet.

Reno County

Kaiser & Murphy made location for No. 1 Friessen, SE cor. NE, Section 6-22-4w. Empire Oil & Refining Co.'s No. 1 Henderson, SW cor. Section 35-25-4w, is dry and abandoned at 4,310 feet.

Sedgwick County

Coleman Oil & Gas Co. and others' No. 1 Nelson, SE cor. Section 35-25-1w, is a rig under construction. Bu Vi Bar Petroleum Corp. and others' rig is up for No. 8 Wright, NE cor. NW NE, Section 12-26-1w, Valley Center Pool. The rig is up for No. 4 Reed, NW cor. NE SW, Section 1-26-1w. Skelly Oil Co. and Davis made location for No. 13 Wilson, NE cor. SW NE, Section 1-26-1w. Bu Vi Bar Petroleum Corp. and others' No. 1 Childs, SW cor. NE, Section 7-26-1, is a rig being built.

Ramsey and others' No. 1 Mason, SE cor. SW SW, Section 15-26-1w, has been completed for 380 bbls. in sand at 2,939-40 feet. Barnsdall Oil Co.'s No. 1 Rapp, NE cor. NW NW, Section 22-26-2, made 100 bbls. in sand at 2,920-28 feet. Simmons & Canary's No. 1 Scott, NE cor. NW NE, Section 22-26-1, is dry and abandoned at 3,625 feet. Shawver and others' No. 1 Scott, SE cor. SW SW, Section 10-28-1, has been abandoned at 3,557 feet.

Sumner County

Gypsy Oil Co.'s No. 2 J. Douglas, C SW NE, Section 23-34-2w, is dry and abandoned at 4,569 feet.

Woodson County

Kansan Oil Corp.'s No. 2 Simpson, NW cor. SE SW, Section 35-23-14, made 10 bbls. in sand at 1,660-67 feet.

Rice County

The Prairie Oil & Gas Co.'s No. 3 Welch "B," NW cor. NE SW, Section 35-20-6w, has been deepened to 3,800 feet in Wilcox sand and abandoned.

GULF COAST FIELDS

(Continued from Page 59)

flowing 300 bbls. daily at 3,394 feet; Benedum & Trees' No. 2 Ahlers, Big Creek, flowing 800 bbls., 9 per cent b.s. and water, at 3,689 feet; Yount Lee Oil Co.'s No. 69 McFaddin, Spindletop, flowing 300 bbls., 3,136 feet; Gulf Production Co.'s No. 49 Phoenix, Hull, flowing 300 bbls., 40 per cent b.s. and water, 3,124 feet; Rex Petroleum Co.'s No. 7 Carbello, Orange, pumping 75 bbls. net oil, 3,342 feet; Tillery Oil Co.'s No. 2 State, Orange, flowing 300 bbls. net oil, 3,116 feet, and Sunshine Oil Co.'s No. 2 Ellender, Old Hackberry, flowing 500 bbls. of oil at 3,253 feet.

The discovery well on the Lake Pelto Dome, in southern Terrebonne Parish, Louisiana, which flowed 1,200 bbls. of pipe line oil daily on one day, went dead last week in an attempt to choke it in following the appearance of water. The water percentage, however, never got higher than 11 per cent. Late in the week tubing was being run in the hole and an attempt will be made to swab the well back in. This well is approximately 30 miles from the nearest dry mainland and its oil production has necessitated barging about 45 miles to storage at Houma, La.

Owing to the sharp decline at Pierce Junction daily average production of coastal fields fell off slightly the last week despite gains at Barbers Hill and other pools. Figures for the week ending August 17 are:

Texas

Allen	12
Barbers Hill	15,062
Batson	1,321
Big Creek	4,403
Blue Ridge	2,810
Brenham	475
Boling	1,411
Clay Creek	2,300
Damon Mound	644
DeWalt	11,657
Fannette	59
Goose Creek	5,522
High Island	1,434
Hull	9,407
Humble	7,636
Jasper County	20
Lost Lake	208
Markham	376
Nash	450
North Dayton	535
Orange	2,778
Orchard	120
Pierce Junction	14,264
Port Neches	593
Refugio	4,523
Raccoon Bend	8,318
Saratoga	938
Sour Lake	2,654
So. Liberty-So. Dayton	5,272
Spindletop	26,352
West Columbia	6,377
Total Texas Coast	137,931
Week ending August 10	138,850
Decrease	919

South Louisiana

Anse La Butte	250
Bayou Bouillon	173
Black Bayou	107
Dog Lake	45
Edgerly	995
Jennings	2,307
Hackberry	4,398
Lake Pelto	0
Lockport	3,574
Port Barre	396
Sorrento	106
Starks	396
Sulphur	3,200
Sweet Lake	35
Vinton	4,194
Welsh	35
Total South Louisiana	20,211
Week ending August 10	21,096
Decrease	885
Total Gulf Coast	158,112
Week ending August 10	159,946
Decrease	1,804

Completions in July In Oil City, Butler, Kane, Pa., Districts

Following are the wells completed in July in the Middle or Kane Field, the Venango-Clarion and Butler-Armstrong districts in Pennsylvania, together with the initial production of the wells:

Middle Field (Kane)

Lots 52 & 56, South Penn	1
Lots 53 & 56, South Penn	1
Henry, Hickey & Rieg 16	3
Lot 164, Blanchard & Co. 12	1
Wells completed	4
Production	5

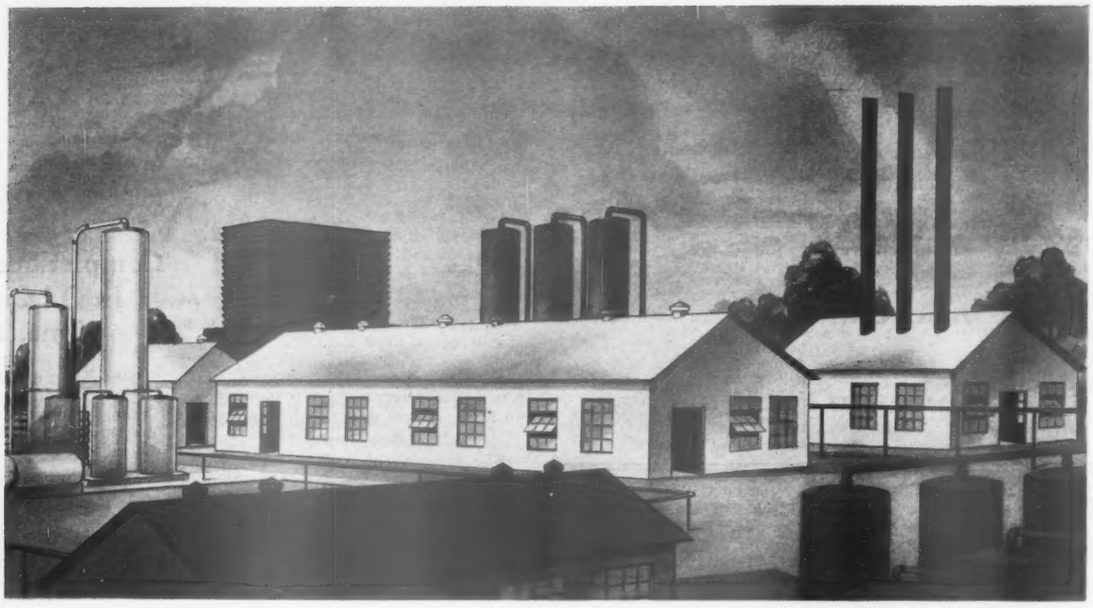
Venango-Clarion

Perrine, L. F. Perrine 14	3
Sankey, Bird, Harrison et al 2	dry
Cunningham hrs., Hutchison & Eakin 36	1
Ghost, Bowers & Hovis 14	1
Fry Bros., M. H. Snyder & Son 10	5
Surrena, Surrena & Hamilton 26	2
Morck, Morck Oil Co. 1	gas
Rembold, S. P. McCalmont est. 2	gas
Milton, S. G. Milton 31	1
Waid, H. C. & L. M. Graham 28	2
Hoffman, M. R. Hoffman 21	1
Berringer, H. C. Craig, et al. 3	1
McKee, C. L. Irwin 6	1
McKee, C. L. Irwin 7	1
Sloan, Hawkins & Hoffman 1	1
Riddle, Riddle, Stubler, et al, 11	1
Dana, Cobb & Ladd 7	1
Stiles tract 74, S. Y. Ramage 89	1
Stiles tract 74, S. Y. Ramage 90	1
Tract 31, Brundred Oil 32	1
Pierson, Midland Oil 4	1
Pierson, Midland Oil 5	1
Hughes, A. W. Hughes 22	2
Paul & Simmons, E. C. Breene et al, 44	1
Fowler, E.A. Burch 14	1
Clark, Robt. & George Foggan 30	15
Fry Bros., M. H. Snyder & Son 1	1
Weaver, W. C. Weaver et al 1	1
Weaver, W. C. Weaver et al 2	1
Weaver, W. C. Weaver et al 3	1
McLaughlin, Thomas McLaughlin 18	1
Sporer, W. B. & F. E. Kapp 1	2
Sporer, W. B. & F. E. Kapp 2	1
Schwab, J. E. Keverline 9	2
Schwab, J. E. Keverline 10	1
Clarion—	
Hess, Alum Rock Gas 14	3
Johnston, M. H. Johnston 17	dry
Ditz hrs., Ditz Co. 1, 2	gas
Stitzinger, Fryburg Motor Co. 1	gas
Leeper & Co., L. B. Shannon 31	1
Cohlheep, S. R. Lewis et al 3	dry
Delp, J. Switzer et al 1	1
Meherten et al, F. C. Deemer 12	1
Meherten et al, F. C. Deemer 13	1
Mong, Pryor, Kline et al 3	1
Berlin & Exley, Grandon, Clingler & Kopp 3	1
Braden et al, E. A. Bream Co. 1	2
Wells completed	47
Production	68
Dry	3
Gas	4

Butler-Armstrong

Anderson, Crawford & Gregory 21	3
Layton, Young, Caler et al 6	1
Blair, Blair & Stewart 9	3
Harbison, H. C. Harbison et al 1	dry
Slater, John Rabbitt 2	1
Vogel, Schaffner & Webber 1	3
Robinson, Robinson & Berry	1
Helfrich, McCamey & Co.	dry
Vogt, J. Vogt & Sons	dry
Campbell, Hamilton, Rigney et al 7	1
Campbell, Mark W. Graham et al 18	2
Barkley, H. R. Edeburn 8	1
Marshall, M. B. Finnessy 17	5
Snyder, W. M. Ruby 17	3
Goubeaud, R. J. Steeb et al 2	dry
Hutchinson, L. D. & T. R. Campbell 9	3
Burke, Burke, Wagner, et al 1	dry
Wells completed	17
Production	25
Dry	5

L&S PORTLAND CEMENT PAINT



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CHIP NOR PEEL OFF

and WEARS

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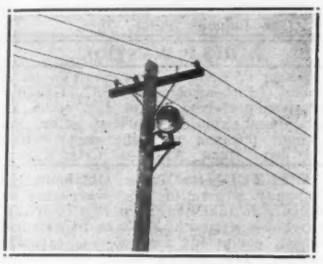
Practical Suggestions in Refining

By W. T. Ziegenhain

Flood Lights Are Rapidly Replacing Individual Bulbs

Flood lights are rapidly replacing the ordinary electric bulbs for illuminating the refinery grounds at night and within a short time the use of the latter promises to be limited to lighting only partially enclosed points. The use of flood lights more nearly approaches daylight conditions and facilities the freer movement of the men about the yard. Aside from its greater economy, it is an important factor in the promotion of safety.

Because of the relatively few lights needed, the wires may be run in conduit



One of a number of 500-watt flood lights in use at the Bristow, Okla., refinery of the Producers Oil Co.

under ground without a large expenditure and this factor practically eliminates the chance of a fire. Under the old system of suspending wires from poles, there was a great danger of the wires rubbing and the insulation deteriorating to the point where they would spark or become short-circuited. If this happened in the presence of oil vapors the danger is obvious. Similarly, the danger of a workman receiving a shock was ever present.

Flood lights of the nature of that shown in the accompanying picture have been installed at the refinery of the Producers Oil Co. at Bristow, Okla., and C. H. Fox, superintendent, commented on the system saying, "We have placed these lights at points round the plant so the operators may go anywhere with as much freedom at night as in daytime. It is a system which I have insisted upon developing for it promotes safety and has proven to be a more economical means of lighting the plant."

REFINERY EMPLOYMENT GAINS IN PRODUCTION

Refinery employment continued to show a substantial increase in both the number of employes and the amount of the pay roll during June of this year compared to that of a year ago and also showed a further improvement over May. In June the number of employes increased 14.8 per cent and the amount of the pay roll increased 15.1 per cent over the previous year and closely approaches the record conditions of 1926.

Much of the increase in the employment has been due to the construction programs outlined by many of the companies early in the year but even with these programs being completed over the first half of the year, the heavy demand for refinery products during the latter half will no doubt hold a greater share of these men for the operation of the plants and 1929 promises to establish a very favorable mark.

Comparing conditions in June with those of the previous month, an increase of 1.8 per cent is shown in the number employed and the amount of the pay roll was increased 1.0 per cent.

APPARATUS RECORDS PROGRESS OF GAS REACTIONS BY PRESSURE DROP

An accurate and rather simple apparatus has been designed at the University of California permitting the study of slow reactions of gases by means of a pressure drop. The principles involved are applicable to refinery and natural gasoline research, especially in the work of developing products from pressure still gases and natural gas. The apparatus includes the use of balanced electric oscillating and resonating circuits and utilizes the changing condenser capacity to denote pressure changes. The changing condenser capacity is brought about by the variation in pressure as the diaphragm within the reaction chamber accentuates the movement of one of the two plates of this variable condenser.

The wiring diagram of the oscillation and resonance circuits is shown in Figure 1. A 301-A Cunningham tube is operated with a 6-volt filament battery and a 150-volt plate battery. Q is a quartz plate which has frequencies of 1,080 and 1,211 K.C. The inductance L_1 has 25 turns of No. 14 copper wire wound on an 11-cm. bakelite cylinder. L_2 in the resonance circuit consists of 80 turns of No. 16 wire wound on an 8.5 cm. bakelite cylinder. It is tapped at every turn to facilitate adjustment. C_1 is a standard

Press. above D .cm of Hg.....	24.5	24.5	17.1×10^{-3}	17.1×10^{-3}	17.1×10^{-3}	17.1×10^{-3}
Pres. below D, cm. of Hg.....	24.5	24.5	17.1×10^{-3}	17.1×10^{-3}	14.6×10^{-3}	14.6×10^{-3}
C_1	1026.8	1026.9	1028.8	1028.8	1007.7	1007.8

1,500$\mu\mu$ variable condenser; C_2 is a small parallel plate condenser which is shown in detail in Figure 2. The diaphragm D is a No. 0 cover glass about 2 inches in diameter, to which the lower condenser plate is attached with shellac. The cover glass was attached to the tube with sealing wax. In case an all-glass system is needed, the diaphragm can be blown from the tube itself. The upper plate is rigidly fixed to the top of the gauge by an adjusting screw. The distance between plates is about 0.3 mm.

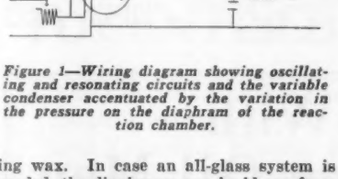


Figure 1—Wiring diagram showing oscillating and resonating circuits and the variable condenser accentuated by the variation in the pressure on the diaphram of the reaction chamber.

When the circuit is oscillating, the plate current is about 15 m.a., as shown by the meter MA, Figure 1. When resonance is established in the gauge circuit, the plate current increases very sharply by about 10 m.a. To adjust the apparatus, the oscillator is set going, C_1 is fixed at a rather large value (1,000$\mu\mu$ to 2,000$\mu\mu$), and L_2 is varied until resonance is obtained. No further adjustments are necessary. For accurate work it is desirable to thermostat the whole circuit to prevent capacity changes, etc., during the measurements.

To use the gauge, one side is filled with the reacting mixture, and the other side with an inert gas. A small leveling bulb will help to adjust the pressure until the diaphragm is in its undisplaced position. The oscillator is started and C_1 is increased until the sharp increase in the plate current is obtained. Decrease C_1 again until oscillation is restored and repeat the operation. Since the frequency of the oscillator is constant and since the inductances L_1 and L_2 are fixed, the total capacity in the resonance circuit is fixed. But $1/C = 1/C_1+1/C_2 = a$ constant. Therefore $dC_1/dC_2 = C_1^2/C_2^2$, or the ratio of the changes of capacity is directly proportional to the square of the ratio of their absolute values. For the condition as outlined above, a small change in C_2 corresponds to a large change in C_1. In the work, the gauge was reproducible to one division of the standard condenser, which corresponded to 3×10^{-4}mm. mercury pressure. This does not represent the limit of reproducibility of the electrical circuit, for when C_2 was replaced by a small fixed condenser, C_1 readings checked within such limits that estimated fractions of a subdivision, i.e., tenths of a division, could be made.

To calibrate the apparatus various methods may be used. Thus both sides can be filled with an inert gas and then the pressure on one side can be changed a given amount by changing the leveling bulb, or the whole apparatus may be evacuated and a liquid with a known pressure introduced on one side. The details of such a calibration can be seen from the following data:

A change of pressure on both sides of D from 24.5 cm. to 2×10^{-3} cm. produced a change of C_1 of only two divisions. If

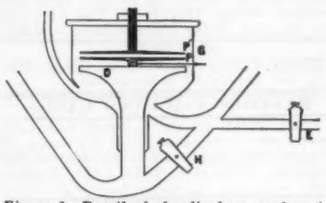


Figure 2—Detail of the diaphram and variable condenser section.

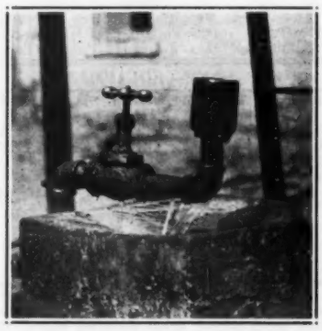
the pressure on one side is kept constant, and the pressure on the other side of D is changed, C_1 changes approximately one division for each thousandth millimeter change of pressure. If C_2 were adjusted so as to resonate at 2,000$\mu\mu$, the change in C_1 would be about 4 times as much.

DRINKING FOUNTAIN MADE FROM FITTINGS

It is common to see some kind of a drinking fountain near the water well on the refinery grounds and during the present warm weather this place is popular. The picture of the fountain shown here was taken near one of the water wells at the Producers Oil Co.'s plant at Bristow, Okla. The well is centrally located with respect to the plant equipment and the water is cold so conditions are ideal for a fountain.

The unique feature, however, is the fountain itself. It is made of ordinary pipe fittings. The pipe leading to the cup is three-quarters inch and galvanized and the cup is a 2-inch collar, the collar being joined with the pipe by means of a bushing. A one-quarter-inch hole in the bottom of the ell allows the cup to be drained every time the valve is closed and this promotes sanitation. The rim of the cup is filed smooth to eliminate any chances of metal splinters causing a cut.

C. H. Fox, superintendent of the plant remarked: "We intend to place a better



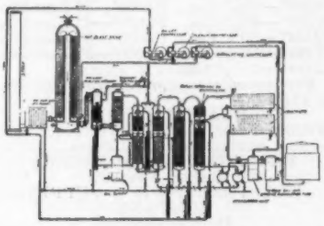
looking fountain here but this one has answered every purpose and we find it entirely satisfactory for our use."

Recent Patents

CRACK WITH HOT GASES

1,715,341. Process for Converting Hydrocarbon Compounds. Myron W. Colony, Texas City, Tex., assignor to Petroleum Conversion Corp., New York, N. Y., a corporation of Delaware. Filed January 3, 1927. Serial No. 158,757. Four claims. (Cl 196—97.)

2. In the process of treating petroleum oils to convert them into compounds suitable as motor fuels, the steps which consist in maintaining a quantity of petroleum compounds undergoing treatment in a closed reaction chamber, heating up a



mass of inert, refractory, heat absorbing material until said material is above the temperature required for the conversion reaction, passing a carrier gas including steam thereover, and thence into said reaction chamber, controlling the temperature of the said reacting compounds whereby the conversion of said petroleum compounds is brought about under substantially uniform temperature conditions, the products from said chamber containing the vapors of the desired compounds of the process in addition to the carrier gas, and subjecting the products from said chamber to conditions producing liquefaction of said compounds suitable as motor fuels.

HEAT INDIRECTLY

1,721,728. Process of Treating Hydrocarbons. John Collins Clancy, Asbury Park, N. J. Filer August 10, 1926. Serial No. 128,514. 5 Claims. (Cl. 196—52.)

1. The process of cracking hydrocarbons, which comprises subjecting the hydrocarbon to be treated, to the action of a reagent comprising a molten mixture of alkali metal cyanide and alkali metal formate, said reagent being maintained at a cracking temperature.

35 CENTS a line first insertion; 25c a line each additional insertion. Cash in advance.

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All in first class condition. Will sacrifice at a few cents on the dollar. E. S. Calvert, Phone 2-4372. P. O. Box 1441, Tulsa, Okla.

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10,000'—6⅝" Csg.	50,000'—3"	Line Pipe
5,000'—8¼" Csg.	20,000'—4"	Line Pipe
10,000'—10" Csg.	15,000'—6"	Line Pipe
2,000'—12½" Csg.	5,000'—8"	Line Pipe
2,000'—15½" Csg.		

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STANDARD TEMPER SCREWS 50 per cent regular price to reduce excess stock. United Iron Works, Inc., Hunt Bldg., Tulsa, Okla. Phone 4-9181.

FOR SALE — Complete set Standard Tools, 12x12 AJAX engine (NEW), 2,000 ft. 6⅝-inch, 24-pound, 700 ft. 10-inch, 52-pound, 1,500 ft. 2-inch pipe. F. E. Turner, 217½ Broadway, Muskogee, Okla.

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WE HAVE AVAILABLE for early shipment subject to prior sale the following used supplies at Stockport, Ohio.
10,000 feet 6¼-inch 13-pound casing in No. 1 condition.
15,000 feet 5-inch casing in No. 1 condition.
5,000 feet 5⅝-inch casing in No. 1 condition.
50,000 feet 2-inch line pipe.
10-15 hp. Reid Gas Engines with single or double Eccentric Pumping Powers.
Two 120 hp. Miller Direct Driven Compressors complete with Electric Generators, Air Starters and Compressor Houses.
Two 95 hp., same.
Write or wire for prices.
H. B. Walker, Trustee
W. F. Glass & Co.
Stockport, Ohio

FOR SALE—One light Sanderson-Cyclone oil rig tractions. Type good for 900 feet. A. D. Fasnacht, R.F.D. No. 4, Massillon, Ohio.

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WANTED—Drilling contract up to 3,000 ft. May take interest. Scout Co., 1015 Cosmerce Bldg., Kansas City, Mo.

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WILL SELL half interest in 5,000-acre block and completed well for $50,000. Half cash and half on completion of 4,000-foot contract. Write Harry Byrens, 324 Union National Bank Building, Wichita, Kans.

ADDRESSES WANTED

WANTED INFORMATION as to the whereabouts of Ralph Jones, working in Oklahoma or Texas oil fields. Very important. Write Box D-91, The Oil and Gas Journal, Tulsa, Okla. Liberal reward.
M. ELLIS
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Heavy Contract Business in Chicago

Major Refiners Behind in Gasoline Deliveries, With Result That They View the Light Spot Demand With Little Concern

By J. B. Waldo

CHICAGO, Aug. 19.—Heavy shipments of gasoline on contracts are causing the major refiners to regard the light spot demand with little regret. Several of these refiners are behind in their deliveries although most of them have leased additional cars to help them make prompt shipments. The spot business done in this market today was only fair at best and were it not for the large contract business its small volume would have been regarded as serious.

Consumption continues heavy, as the weather and roads are both ideal for motoring. The price situation was more firm with major refiners holding steady at 7¾ cents for U. S. Motor gasoline and the other sellers asking a little higher prices than at the close of last week. There was little U. S. Motor gasoline to be had by the jobbers at less than 7½ cents from any source and some who had sold at that price on Saturday were trying to sell at 7⅝ cents. As the demand was light they did not receive many orders at that price but they expressed the belief that they sold as much as they would have at a lower quotation.

Kerosene was moving with freedom and prices were generally quoted one-eighth to one-quarter cent higher, some refiners now quoting 5⅝ cents.

There was little activity in furnace oils today. Prices were unchanged. Offerings of industrial fuel oils have dropped off. The Shell organization is still out of the market for all grades lower than 28-30 gravity and this is evidenced by many inquiries from buyers, of whom a majority are fuel oil marketers seeking other sources of supply.

Prices are firm. Some advances in quotations were made today and the quantities offered were small.

The gasoline consumption was large over the week-end and oil men who drove to the city from the north woods, arriving Sunday night, state that they have never known the roads so crowded all the way. There will be at least two weeks of heavy tourist demand for gasoline to Labor Day.

Gasoline Buying Active

Jobbers' buying of motor gasoline was on a large scale last week, orders on contract being freely made and the spot buying more active than for several weeks. The largest movement in the spot market was during the first part of the week. Towards the close the demand was less active, jobbers having evidently supplied their wants for the time. The purchasing was all for present requirements, which are large.

Seldom has the oil industry had a more favorable touring season. The weather has been clear and the temperature high over a large part of the Middle West. Keepers of tourist resorts in the north woods report a fine business and the number of American cars that have crossed into Canada has been unusual.

The price of U. S. Motor gasoline was maintained by the major companies at 7¾ cents over the entire week but the spot market did not advance to that figure being for the most part around 7⅝ cents and the bulk of the spot sales being entered at 7⅝ to 7½ cents. There was little of the cheap stuff available, that is gasoline sold as the U. S. Motor grade at less than the 7⅝-cent price; but it is true that a decline in the market would result in sales at less than the present spot prices, for there is gasoline seeking a market which has been sold to jobbers at less than 7⅝ cents.

Result of New Freight Costs

Some of this material comes from local or near-by plants which had decided advantages in this part of the territory owing to low freight costs. For example there is one refinery outside of the city limits, but within the Chicago switching district, which has been quoting 9 cents refinery, for its U. S. Motor gasoline. The switching charge would not exceed one-eighth cent a gallon. This refinery is operating on crude from the Muskegon Field which is received by barges, giving the refinery a low cost for the transportation of its crude. One of the new Muskegon refineries is now shipping gasoline and while the product is going to Detroit, it displaces gasoline that would have peen purchased elsewhere under previous conditions.

Activity of Pennsylvania plants in seeking orders from Middle West dealers is traceable to the influx of California gasoline to the East Coast where it has displaced material which ordinarily would have come from the Appalachian group of refiners. Refiners in Ohio and even Kentucky have sought for business in sections ordinarily served by other refiners and the result has been a sort of surging of gasoline westward from what must be considered as eastern refineries. How long this condition will continue is a question.

California Law Expected to Help

Right now there seems to be an expectation that the operation of the newly enacted law for the conservation of natural gas in California will result in a reduction in the crude production. Some oil men believe that the reduction may be sufficient to bring about a better situation as regards California gasoline along the Atlantic Coast. Others believe that other adjustments will have to be made if the competition from the West Coast gasoline is to be decreased and that this will take time.

Less gasoline from the New Orleans district is available at points in Ohio where the Southern refiners formerly enjoyed freight differentials which opened a large market to them. These refiners in the New Orleans district are seeking to increase their outlets in the Gulf Coast states. Their northern customers have several sources to which to turn for supplies. Among them are the new refineries at Detroit already in operation and those which are just beginning to operate at Muskegon. The development of the Muskegon oil field into an important refining center seems to depend to a large extent on the uncovering of additional bearing oil sands. Several producers in the Muskegon Field have united to drill a test to the Niagara sand and if this is found and proves to be oil bearing and capable of quantity production, the refining industry at that point will be expanded both by the enlarging of present plants and the building of additional refineries as there are oil men waiting for the results of this test before taking definite steps to engage in the refining business in that field.

Few Objectors to Price Increase

There have been few if any legitimate jobbers who have objected to the action of the major refiners in advancing the price of gasoline. Naturally they want to buy at the bottom of the market, for their business is to buy and sell gasoline and other products and they realize that they must be able to buy as cheaply as their fellow oil men if they are to compete successfully with them. The legitimate jobber does not want to be obliged to compete for his business with price cutters and in many points in this territory price cutting was becoming common. Neither does he want to be obliged to lower his prices to the public right in the middle of the best gasoline month of the year. That this would follow widespread price cutting of the present tank wagon scale the jobbers know by their own past experiences. So far the major companies have chosen to ignore the price cutting going on. Much of it has been outside the larger centers and along the highways and in the outlying parts of the larger cities.

The demand for the higher gravities was light last week, and some of the major refiners while advancing their U. S. Motor gasoline have not increased the price of their higher tests to the same extent. One reason for this appears to be the absence of any real demand for export material in Oklahoma, at least at prices that the refiners could afford to take. One refiner who failed to secure some expected export business, has been quoting the same price for his 375 and his 360 endpoint grades. Presumably others are in the same position.

Much of the gasoline being shipped abroad is believed here to come from the West Coast. If not, the material that is displaced by the influx of West Coast gasoline is finding its market in foreign parts. There has been no export business done here. There seems to be less blending going on, at least the demand for natural gasoline out of this market has been small. There has been no improvement in the situation in the eastern part of the territory. In fact, it is being muddled further by the desire of refineries outside of the state for some of the Ohio business and in return the Ohio refiners have been striving for orders wherever they can hope to get them. This keen competition has resulted in further local cuts in the tank wagon scale over parts of Ohio until dealers do not really know what the real market is, and make one of their own, whose chief objective is not to be higher than the probable market.

Kerosene Fairly Active

Kerosene is fairly well reported by some of the local sales offices while others find their sales light. Several of the refiners have reduced their quotation on 41-43 gravity water white to 5¼ cents and this price prevails generally. Some have been having a good demand from the Northwest where the harvest is later than elsewhere in the territory.

There has been more interest shown in furnace oils but the chief inquiry has been for favorable contracts. Many refiners state that they have made all the contracts they care to sign at present and probably will not increase the number of their contracts but as the demand for shipments is delayed and has been light with them they have a limited quantity of spot material which they can sell if the buyer is willing to pay their price. Usually the buyer is unwilling to pay the price asked and in several instances the distributors have decided to buy enough distillate and zero gas oil in the spot market to make it possible for them to fill the tanks of their customers and then wait for a price.

There is usually a quiet period after the first fills of consumers' storage. Several refiners are asking 3¾ cents for 38-40 straw distillate and some with specially treated products 4 cents while the spot market is lower.

The market for all grades of desirable furnace oils is firm. There have been large quantities of furnace oil contracted for and if the season is such as to insure its being all ordered out the question later may be to get the oil regardless of the price. There has been no change in the contract prices with consumers in this city and vicinity and distributors, including leading refiners, report that they have been very successful in renewing contracts and in adding to their list of contract customers.

Gas Oils Firmly Held

Gas oils are firmly held and prices quoted by refiners are a fraction higher. In the case of the zero gas oils the reason for this is the coming demand for furnace use. In the case of the U. G. I., oil buyers claim that there is no real reason why prices should be higher and they are holding out against paying advances. Some of the refiners state that they have cracked or sold to other refiners who have cracking plants, all of their straightrun gas oil including the gravities down to a 28-30 and even lower where the quality of the oil made is usable as cracking material. But it is stated that some of the refiners are not running their cracking plants or have reduced the quantity of oil run to their crackers, which should result in larger supplies of U. G. I. gas oil.

For the past two or three weeks, refiners in the Mid-Continent Field have been reducing their stocks of gas oil, the shipments exceeding production, and stocks show no accumulation. Many of these shipments have been to gas companies which gradually are accumulating supplies for the larger consumption that comes with shorter days.

The gas company buyers show no inclination to consider possible purchases. Most of the larger concerns state that they are not interested. Many contracts have been signed for the season and some have bought for storage but there are some who are still waiting before they fill their tanks although the number here is growing less. Some quotations are being made of 2⅝ cents for U. G. I. 32-36 gas oil and the Shell people who have withdrawn all quotations and will not accept additional business here on all grades of fuel oil below 28-30 gravity still have U. G. I. gas oil to sell. One explanation for this procedure is that they find that it pays them better to crack their heavier fuel oils and to sell their straightrun gas oil.

Industrial Fuel Oil Market Stronger

The market for industrial fuel oils has been strengthened by the withdrawal referred to. Many sellers of fuel oil have been drawing one-half or more of the industrial fuel oil that they sold from these refineries and now find themselves forced to seek for other sources of supply. Many of them still have oil bought at earlier periods coming to them and as this oil generally was bought below the present market the tendency is to give the buyer some of the possible profit so that the local market does not show the full extent of the increase in prices asked by refiners. One refiner who is now asking and holding for 57½ cents for his 18-22 fuel oil is unable to secure shipping instructions on orders booked at 50 cents, which shows how slow the present demand is.

Right now one trouble with the fuel oil demand is that users, some of them the largest steel companies, are stopping all shipments or reducing the quantity that is allowed to come forward. This is only the usual midsummer condition and indicates nothing of a decrease in the consumption of fuel oil by these industrial concerns and the condition will soon pass.

The demand will be increased not alone by the larger operation of the industries but by the beginning of the use of fuel oil for heating. Some dealers estimate that one-half of the demand during the

(Continued on Page 141)

Lub Prices In East Show Better Tone

Recovery Affecting All Grades of Cylinder Stocks Is Most Constructive Development of the Week in Refined Products

By A. E. Mockler
New York Bureau, The Oil and Gas Journal

NEW YORK, Aug. 19.—A recovery in lubricating oil prices, affecting all grades of cylinder stocks, has been the most constructive development in the refined products situation in the East this week. Changes of outstanding importance are lacking in other divisions of the market.

Gasoline markets are still far from stable, and it appears probable that an early downward revision will be made in the open market basis shortly. The 10-cent quotation is still ostensibly the market, but few sellers are even going through the motions of asking this basis and then coming down to 9½ cents, the prevailing level at which most business is being taken. Although 9½ cents is still the market on the part of the larger interests, reports of business under this figure are fairly numerous, and it is felt in some quarters that the principal marketers here will be compelled to come down to a 9½ cents "official" price to prevent the market getting completely out of hand.

The competitive situation is still coming in for comment, with no signs of early improvement, unless all of the principal interests here adopt and rigidly enforce the industry's code of ethics recently approved by the Federal Trade Commission. An interesting factor in the local situation is the organization this week of a mystery "Standard Oil" company, the Standard Oil Co. of Rhode Island. Thus far, nothing is known of the identity of the interests behind this company.

Tank Car Gasoline

The wholesale gasoline market is in emidemoralized position throughout the East. The spot market is nominally maintained at 10 cents per gallon for U. S. Motor but there is no business available at that figure. Practically all of the large refiners are booking most of their spot business at 9½ cents per gallon, with reports that some small operators are selling at 9¼ cents, and rumors that even 9 cents has been the figure in a few instances. One seller is reported to be offering gasoline for shipment from the Gulf at 8½ cents per gallon, c.i.f. New York for U. S. Motor. Reports of a slight improvement in the gasoline position in Group 3 territory thus far have had no effect upon the situation in the East.

Gallonage is good at all points in the East, but all factors unite in the statement that competition has never been stiffer. Jobbers, as is natural under the circumstances, are inclined to play one seller against another, and are making the most of the numerous rumors now in circulation. Refiners and marketers are anxious to hold all of their outlets and thus are in a mood "to meet competition."

Jobbers are ordering stocks forward only for immediate needs, and there is practically no forward booking at fixed prices being done. The general practice of jobbers is to keep storage full and enough gasoline rolling to take care of demands for a few days, with day-to-day buying in the spot market to keep sufficient gasoline under contract to take care of all distributing requirements.

Leading interests here are of the belief that it is a matter of only a short time before the "official" tank car price here is reduced to 9½ cents per gallon. Efforts are bieng made, however, to keep the market in as steady position as is possible during the remainder of the motoring season. Just what may be expected when the summer demand lets down is something that is giving the trade here food for thought, although it is hoped that conservation measures will develop sufficiently by late fall to lend a better feeling to the petroleum market structure. A better export movement is also looked for by some interests, which would tend to relieve the pressure on domestic markets.

Tank Wagon Gasoline

Reports of price cutting from several sections of East Coast territory are heard this week, but there have been no changes in the open market price basis. Demand for gasoline is holding up well, and there appears little doubt that all previous records for consumption will be bettered throughout eastern territory during the current season.

However, leading marketers are still commenting on the sharp competition now prevelant, and this does not apply to that provided by the small independent operators only, although the latter class of distributors has become a greater factor due to the current weakness in the refinery market.

While conditions are by no means as bad as they were two summers ago, marketers are again "meeting competition" in certain markets where price cutting has developed, and the tank wagon gasoline schedule is not as uniform as it was two months ago.

The outlook for business during the remainder of the motoring season continues favorable, from the standpoint of gallonage, but the maintenance of prices is not so certain.

Kerosene

Domestic demand for kerosene is still rather light, and the market in East Coast territory remains in an easy position. Refiners are quoting water white in tank car lots unchanged at 8 cents per gallon, but most of them are selling at 7¾ cents, and it is reported that 7½ cents has been the price in a few instances. While refinery stocks are fairly large, there is no selling pressure and refiners are not inclined to force sales at the expense of prices. There has been falling off in the export movement of kerosene during the last few weeks, and this has resulted in the backing up of some kerosene supplies on the domestic market. The market outlook for this product is fairly favorable, on the whole. Summer consumption has been good, and the fall demand will get under way within the next several weeks.

Tank wagon kerosene sales are reported holding up well for this season of the year, and the market in New York and New England territory is held steady at 15 cents per gallon. Consumption in the summer resort areas is at its peak for the year, and distributors serving these territories are busy. Use of kerosene is growing for cooking in rural communities throughout the eastern area. Manufacturers of kerosene ranges have made material progress in the development of a more satisfactory type of kerosene burner and these improvements have greatly widened the market for kerosene. In addition, there is a heavy call for kerosene distillate for use in domestic oil burners.

California has become a more important factor in the kerosene distillate market in the East during the past few years, and it is expected that shipments from the West Coast will play an important part in the market along the Atlantic Seaboard during the coming winter. California kerosene for domestic consumption may also develop as a factor, it is felt here, in the event that overproduction of crude continues on the Pacific Coast. California refiners are seeking wider outlets for motor fuel in this territory, and it is logical to assume that they may seek to market a larger proportion of their kerosene production in the East as well.

Lubs

The market for cylinder stocks has shown an upward reaction this week, and prices are higher on all grades. Demand has picked up somewhat, with both the domestic trade and export buyers coming into the market for stocks for prompt shipment. While this buying is not running into exceptionally heavy totals, there is sufficient volume to make for a firmer feeling all around. Refiners are of the opinion that many domestic buyers have permitted their stocks to run to dangerously low levels during the quiet market of the last few weeks, and that replacement buying may be looked for on the part of domestic compounders and blenders. Substantially the same views are held with respect to the export trade.

Current prices are about a cent a gallon over the quotations in effect last week, and are as follows: 600 steam refined, 32 cents per gallon; 635 steam refined, 34 cents; 650 steam refined, 38 cents; 600 Pennsylvania flash, 44 cents; 630 Pennsylvania flash, 48 cents; 600 Warren "E," 41 cents; 600 Oil City "E," 40 cents; bright stocks, light, 61 cents; bright stocks, dark, 59 cents per gallon. Much of the present strength appears centered on bright stocks, and refiners are talking further advances on this grade.

Retail prices for motor oils are higher, reflecting the advances in the refinery market during the last several months. Popular brands of lub oil sold in 1-gallon cans are now listed at $1.50 per gallon, against a price of $1.25 per gallon formerly in effect. Bulk lub oil, formerly sold at filling stations at 15 to 20 cents per quart, is now listed generally at 20 to 25 cents per quart, although 15-cent oil is still obtainable at some of the cut-rate stations. Many retail stations which formerly presented customers with a 1-gallon can of lub oil on special occasions, are now in most instances making the premium a 5-gallon gift of gasoline, owing to the higher lub oil prices.

Steady markets for red and pale oils are reported this week. Demand is showing improvement and tank car movement is a little heavier. Prices are steady and unchanged.

Paraffin Wax

There has been a mixed trend in paraffin wax prices this week, and the market is still unsettled. Business is reported on 120-122 a.m.p. at 3½ to 3⅝ cents per pound, with 125-127 sold at 3.90 cents at Bayonne. Stocks of 130-132 a.m.p. continue small, and the market is firmer at 5¼ cents per pound. Offerings of 133-135 a.m.p. are reported at 5¾ cents, with 135-137 a.m.p. rather easy at 5⅞ to 6 cents per pound on spot.

The unfavorable statistical position of the market, as reflected by the steady gain in stocks during recent months and the decline in domestic consumption and exports, has created a bearish feeling in the market and buyers are underbidding the market on all grades in an effort to find weak holders. Shading is being done and the price basis is more or less nominal. Export buyers have been operating in routine volume only during the past several weeks, and refiners are looking for an early increase in volume of export buying.

Notwithstanding the soft position of the market and the top-heavy stocks of many grades, refiners still are showing firm views on the market and are turning down many bids. There is no speculative buying, operators being unwilling to take a long position in the face of the present heavy supply. Refiners are willing to book futures at current quotations, but buyers in most instances are not contracting more than a month ahead.

Petrolatum

Snow white has been meeting with a slightly better call this week, with the market remaining steady and unchanged at 8⅜ cents per pound. There has been a little buying of dark green for export, and while sellers are still quoting 1.90 cents per pound, buyers are bidding from 1.75 to 1,80 cents on this grade. On some domestic business, refiners are quoting dark green on the basis of 2 cents per pound. Pharmaceutical manufacturers are expected in the market shortly for stocks of petrolatum in a large way to cover their winter requirements, and sellers are showing stiff views on the market, on both spot offerings and petrolatum for delivery during the closing quarter of the year. Curren production is reported moving out fairly well, and refiners' stocks are not excessive.

Fuel Oil

Consumption of bunker fuel oil is holding up well at East Coast terminals, and the market is in steady to firm position. Refiners are quoting the market at $1.05 per barrel, in bulk, f.o.b. refinery terminals, and $1.10 per barrel delivered alongside within harbor limits. No developments have materialized as yet in relation to a price advance on bunker oil, although the feeling persists in trade circles that some action in this direction may be looked for before the end of the year. It appears to be generally felt that any material reduction in crude production will be reflected in a higher bunker oil market in the East in the event that tanker charter rates continue at their present high levels. There is nothing in sight at the moment to indicate any early reduction in ocean freight rates. Low prices for gasoline and other refined products, which during the last year or more have been counted on to "carry" fuel oil sales, are now at such a low ebb that refiners have been forced to give serious consideration to the problem of obtaining a refining and marketing profit on bunker oil.

Diesel Oil

Movement of Diesel oil is well maintained, and the market remains steady at $2 per barrel at East Coast refinery terminals. Consumption is on the increase, and refiners say that their total sales for the year will run close to 40 per cent in excess of those recorded for 1928, with every indication of steadily growing consumption. Industrial demand for Diesel oil is on the increase and marine consumption is likewise growing steadily.

Gas Oil

Recycled gas oil continues unchanged at 5¼ cents per gallon at East Coast refineries, with a slightly better demand reported. The 5¼-cent figure is quoted by leading interests, but other sellers are doing 5 cents and some stocks can still be had as low as 4¾ cents per gallon. No offerings of straightrun gas oil are reported, refiners using whatever stocks they may of this oil as cracking stock. Industrial consumption is a little better, the artificial gas companies drawing stocks against standing contracts in a larger way. Refinery stocks of recycled gas oil in the East are fairly large, but surplus holdings are not burdensome. Refiners expect heavy consumption of this oil as domestic heating fuel during the coming winter season.

(Continued on Page 141)

ERECO

FRACTIONATING STILLS

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Natural Gasoline Manufacture

COSDEN TO BUILD LARGE PLANT IN LOGAN COUNTY

J. S. Cosden, Inc., has completed plans for the construction of a large gasoline plant of the oil absorption type near Lovell, Okla., in the Marshall Pool of Logan County. The plant will have a capacity of 50,000 gallons daily and in the beginning will operate at well pressure.

The Cosden company recently completed a large well on its lease in Section 30-19-4w in Logan County. The well has maintained a crude oil production of approximately 5,000 bbls. daily with several million feet of casinghead gas. The Cosden company is drilling additional wells and has also contracted for gas on adjoining leases.

The plant will be the first to be built by J. S. Cosden, Inc. The company is headed by J. S. Cosden, formerly the president of what is now known as the Mid-Continent Petroleum Corp. That company was one of the early manufacturers of natural gasoline in Oklahoma.

It is expected that the output of the Cosden plant will be absorbed by the 15,000-bbl. refinery which the Cosden company recently completed at Big Spring, Tex. J. S. Cosden is also interested in the new refinery of the Richardson Refining Co. at Big Spring.

FIRST GASOLINE PLANT AT MUSKEGON OPERATING

The Bell Gasoline Corp. has started operation of the first natural gasoline plant in the Muskegon oil field. The plant is a portable unit with a capacity of from 10,000,000 to 20,000,000 cubic feet of casinghead gas a day.

With a gasoline saturation of but seven-tenths of a gallon per 1,000 cubic feet of gas the plant will have a daily output of not more than a tank car load, or 10,000 gallons of natural gasoline. Storage facilities for the output of the plant have been provided through the Muskegon Refiners, Inc., now completing the erection of a 500-bbl. skimming plant at the intersection of M-20 and the Pere Marquette Railroad in the Muskegon Township area of the field.

Officers of the Bell Gasoline Corp., which is controlled by Muskegon Oil Corp. interests are: President, E. C. Shields; vice president, Howard Wyrick; and secretary-treasurer, Charles E. Myler. Leon M. Herkert. of Joliet, Ill., W. A. Hower, of Muskegon, and Stanley Daniloff, president of the Muskegon Oil Corp., are directors.

Practically the entire output of the plant already has been sold for blending with the product of the Muskegon Refiner, Inc., whose plant is expected to be in operation by September 1.

LOWER FREIGHT RATES

An examiner of the Interstate Commerce Commission has recommended an order requested by the Independent Oil Co. of Altoona, Pa., giving natural gasoline from Oklahoma to Pittsburgh, Johnstown, Altoona and Portage, Pa., a lower freight rate than ordinary gasoline.

The present rates of 60.5 cents per 100 pounds to Pittsburgh, 63.5 cents to Johnstown and 69 cents to Altoona and Portage are recommended to be reduced to 54.5 cents, 57.5 cents and 63 cents, respectively.

ENLARGES PLANT

The Victor Gasoline Co. has increased the capacity of its plant in the Little River Field with the addition of six compressor units. The plant now has 18 units. The plant has a capacity of approximately 40,000 gallons daily.

GASOLINE PRODUCTION IN GREATER SEMINOLE FIELDS AT HIGH POINT

The Greater Seminole area of Oklahoma continues to show large natural gasoline production.

The monthly check of The Oil and Gas Journal completed the latter part of last week showed a daily production of 1,180,700 gallons. This is an increase of 3,500 gallons over the July figure and establishes a new production peak for that area.

Several of the larger manufacturers in that area as shown in the accompanying table increased their production over the July figure. The production of one company decreased approximately 30,000 gallons daily and this with smaller decreases by two companies tended to offset a large part of the increase of other manufacturers.

Extensions which have been made to the Greater Seminole producing area and the drilling of inside locations within the proven pools has given most of the manufacturers a steady gas supply. Several manufacturers in fact still have more gas than they can process with their present equipment. One company has under consideration the construction of a new plant.

The casinghead gas output of the pumping wells is holding up surprisingly well. A number of wells are constantly being placed on the pump after the gas lift operation is no longer feasible. This reduces the volume of gas but the gas has a gasoline content as high as 9 gallons per 1,000 cubic feet. The average of the field for pumping wells is probably from 5 to 6 gallons.

The Carter Oil Co.'s output of natural gasoline is now averaging daily between 180,000 and 200,000 gallons. The company has recently acquired new gas supplies in the old Seminole City area and has boosted its production in that section including the Searight Pool to 135,000 gallons daily.

The Sinclair Oil & Gas Co. continues to be the largest manufacturers in the Seminole area although its production has dropped 30,000 gallons daily under the July figure. The production of the Gypsy Oil Co. is approximately 12,000 gallons less than in July. The output of the Magnolia Petroleum Co.'s plant in Earlsboro Pool has been doubled to 6,000 gallons daily.

The Shell Petroleum Corp. has increased with an output of 55,000 gallons daily at its St. Louis-Pearson plant.

The Skelly Oil Co. in Seminole area has increased almost 20,000 gallons daily over July. The company has installed additional equipment at its Earlsboro plant and it is now producing 45,000 gallons daily. The Victor Gasoline Co. has also increased its output so that it is averaging more than 10 cars of finished gasoline daily. The largest increase is in the company's Little River operations where the output increased from 24,000 gallons in July to 38,400 gallons in August.

Manufacturers expect little change in the Greater Seminole output over the next 60 days. The decline in gas supply is slow and there are still a large number of wells to be completed which will furnish a large volume of new gas.

There is now considerable Grade A production in the Greater Seminole area. During the winter months the bulk of the duction has held up remarkably well durwarmer weather is responsible in part for the greater yields of Grade A. Those in touch with the field state that the production was held up remarkably well during the summer weather. Most of the manufacturers are moving their output from day to day and field storage losses have been reduced to a minimum.

The Greater Seminole area accounts for over half of the natural gasoline production in Oklahoma. The latest government report shows a total production in June of 57,400,000 gallons or 1,910,000 gallons daily. The production of the entire Mid-Continent area totaled 99,900,000 gallons during that month or 3,330,000 gallons daily.

NATURAL GASOLINE PRODUCTION IN GREATER SEMINOLE—GALLONS DAILY

	Seminole City	Bowlegs	Earlsboro	Little River	St. Louis Pearson	Maud	Mission	Total
Amerada Petroleum Corp.	.....	9,000	15,000	.....	.....	25,000	.....	49,000
Barnsdall Oil Co.	.....	.....	18,000	.....	.....	14,000	.....	32,000
Carter Oil Co.	†135,000	6,000	.....	43,000	.....	.....	.....	184,000
Crosbie & Moran	.....	.....	26,000	.....	.....	.....	.....	26,000
Empire Oil & Refining*	27,000	43,000	.....	8,800	.....	18,500	.....	97,300
Forrest E. Gilmore Co.	.....	9,000	.....	39,000	20,000	.....	.....	68,000
Gilmore Production Co.	.....	.....	.....	3,000	.....	.....	.....	3,000
Gypsy Oil Co.	.....	.....	.....	55,000	.....	.....	65,000	120,000
Independent Oil & Gas Co.	.....	.....	.....	28,000	.....	.....	12,000	40,000
Magnolia Petroleum Co.	.....	.....	6,000	.....	14,000	.....	.....	20,000
Moran & Gillespie	.....	.....	.....	.....	27,000	.....	.....	27,000
Pure Oil Co.	15,000	15,000	.....	12,000	.....	.....	.....	42,000
Powers, M. F.	.....	.....	.....	.....	15,000	.....	.....	15,000
Shell Petroleum Corp	.....	6,000	.....	.....	55,000	.....	22,000	83,000
Sinclair Oil & Gas Co.	100,000	78,000	11,000	.....	46,000	.....	.....	235,000
Skelly Oil Co.	.....	.....	45,000	.....	.....	8,000	.....	53,000
Victor Gasoline Co.	5,100	22,000	20,900	38,400	.....	.....	.....	86,400
Total	282,100	188,000	141,900	227,200	177,000	65,500	99,000	1,180,700
Production July 20	265,500	193,600	131,500	228,400	192,500	67,000	98,700	1,177,200

*Includes production of Indian Territory Illuminating Oil Co. †Includes 50,000 gallons daily production in Searight Pool.

REMODEL PLANT

The Midco Oil Corp. of Tulsa has changed its compression gasoline plant located near Oilton, Okla., to an oil absorption plant and has increased the plant yield. The plant was one of the oldest operating units in that section of Oklahoma.

The management decided to change the operation from the compression to the oil absorption type. A complete absorption unit of the Southwestern type was installed adjoining the compression plant. A shut-down of only six hours was required to shift from the compression to the oil absorption operation. The compression capacity of the plant has been reduced 50 per cent. The plant now has a capacity of 10.000 gallons daily.

LOGAN COUNTY PLANT

The Logan County plant of the Shell Petroleum Corp. near Marshall will be in operation within a few days. The plant will have an initial production of from 15,000 to 20,000 gallons daily. The corporation is also building a booster plant in the same area. This unit will be used to boost residue gas to the pipe line system of a natural gas company.

NEW PLANT OPERATING

The new plant of Crosbie, Porter & Martin, Inc., of Tulsa, in the Cary Pool of Oklahoma near Okemah, has been completed and is now operating. The plant is making approximately 7,000 gallons of gasoline daily. The plant has a capacity of 15,000 gallons daily.

BUILDING ASHER PLANT

The Skelly Oil Co. is building a small gasoline plant in the Asher Pool of Pottawatomie County, Oklahoma. The plant which will be ready to operate next week will have a capacity of 5,000 gallons daily. The plant is the oil absorption type. Two twin compressor units are being installed.

GAS LINE COMPLETED

SAN FRANCISCO, Calif., Aug. 17.—New Kettleman Hills-San Francisco natural gas line of Pacific Gas & Electric Co. has been completed, and testing has started. Unless imperfections are discovered, delivery of natural gas is expected to start by the middle of week.

A PRACTICAL SUGGESTION

WATER GAUGE IN TANK CAR

One of the trials and tribulations of the gasoline producer, is the buyer's complaint—"water in the car." The outlet valve of the car may have been opened, before loading. Even so, water in small amounts would not be detected, if the loading rack is off level. "Thieving" of course holds its deserved place in petroleum sampling, but the gauge pole is particularly well adapted for water testing of light oils in either the car or the tank.

Chalk Method

The gauge pole is covered with chalk or with a paste made of chalk and glycerin. A good "water wet mark" is obtained on the pole.

Sensitized Paper Strips

Strips of chemically sensitized paper of convenient width and length, can be bought on the market from firms handling standard oil laboratory equipment. This paper strip attached to the gauge pole by means of a rubber band or small copper wire, changes in color from a yellow to white, when wet with water. The paper strip method has an advantage over other methods for water testing, as this strip forms a permanent record of the shipment, and should serve well both the buyer and the seller.

A car loading record sheet—showing the details of inspection, before and after loading—will save trouble and money when controversies exist. Water causes a further trouble during the winter season by freezing in the water leg of the outlet valve. If this leg bursts, then a fire hazard as well as a volume loss, results.

Practical suggestions by those connected with the construction and operation of natural gasoline plants are invited. Payment will be made as soon as suggestions are accepted. Address all communications to the Natural Gasoline Department, The Oil and Gas Journal, Tulsa.

Brief Items for Petroleum Refiners

INAUGURATE FIRST CHAIN AERIAL FILLING STATIONS

In connection with the nonstop refueling flight of the Spokane Sun God between Spokane and New York and return which was completed this week, The Texas Company inaugurated the first chain of aerial filling stations.

The airplane, piloted by Lieut. N. B. Mamer, was refueled at several points in the transcontinental trips. The Texas Company, whose gasoline and lubricating oils were used, arranged for these refueling operations.

Capt. Frank M. Hawks, superintendent of the aviation department of The Texas Company and holder of the transcontinental nonstop flying record, believes that the flight will greatly aid in the advancement of commercial aviation. Regarding the flight, Captain Hawks said:

"The commercial and military value of this flight is unmistakable. Endurance flyers have demonstrated the longevity of the machine, and the stamina of the men involved. Mamer's flight demonstrated the feasibility of an aerial shuttle between the Pacific and Atlantic which could drop messages or passengers by parachute, the plane and the crew receiving their supplies in the air without the necessity of touching a wheel to the ground.

"It is logical to believe that this flight must have some considerable effect on the future planning of mail routes, construction of airports, and the design of refueling ships. In direct contrast to localized endurance flights and nonstop flights of which it may be said that the 'laboratory value is greater than the commercial value,' this flight of Mamer's is likely to be epoch-making in the annals of commercial aviation."

WILL HEAR COSDEN'S COMPLAINT

FORT WORTH, Tex., Aug. 19.—The Texas Railroad Commission, at its next session, which begins September 10, will hear the petition filed by and on behalf of the Cosden Oil Co. in which it is alleged that the rates presently maintained and applicable to the transportation of refined petroleum products, in carload lots, from Big Spring to Pecos and El Paso, are prohibitive to the movement of traffic and therefore unreasonable and discriminatory.

The petition asks for an order of the commission establishing just and reasonable rates to apply to such traffic between these towns. Notice of hearing has been sent to the Texas & Pacific Railroad and all other interested parties.

BUYS FIVE OIL TANKERS

Spencer Kellogg & Sons, Inc., have purchased a fleet of five tank steamers for carrying oil from the Orient to Atlantic and Gulf ports. These ships are all the same size and are at present in use for the same purpose to which Spencer Kellogg will devote their operation. They make monthly sailings from Manila to New York. This service will enable the company to do only a small amount of chartering in the outside market, as its new line will care for the larger part of its shipments. It is estimated that the purchase will add materially in the future to profits, the company states.

COUTTS REFINERY RESUMES

CHATHAM, Ontario, Aug. 17.—The Maple Leaf refinery at Coutts, Alberta, has resumed operations, following a shut down caused by a fire on May 23 which caused approximately $50,000 damage to the plant. The refinery is now reported operating to its full daily capacity of 500 bbls.

TO OPERATE FIRST OF GREEN FLAG SUPERSERVICE STATIONS IN TEXAS

The first of the Green Flag Super Service stations, five of which are to be built between Fort Worth and El Paso, Tex., will be formally opened about September 1 at Sweetwater, Tex. The construction work will start this week on a second station to be built at Eastland, Tex. A third station is to be erected at Midland, Tex., and two additional units will be built at other points in the near future.

The construction of the station is another indication of the trend toward large stations in which services other than the usual gasoline, lubricating oil and grease are offered the motoring trade. In the case of the Green Flag Super Service stations an elaborately equipped restaurant and fountain will be operated in connection with a complete oil station of the "one stop" type.

The stations are owned by W. G. Cummings of Tulsa who developed the features incorporated in the station service. Mr. Cummings is widely known in the oil industry as the Mid-Continent manager of Clark Bros. Co., manufacturers of gas engines. S. F. Tenney, former manager of the William Penn hotel in Pittsburgh, has been employed as manager of the stations.

Mr. Cummings inaugurated his station plan to provide for a large station about every hundred miles on the hard surface highway connecting Fort Worth and El Paso. The highway is officially called Texas No. 1 and is familiarly known as the "Broadway of America," the highway being part of a system extending from New York to Los Angeles. In connection with the Midland station, Mr. Cummings plans to build a large hotel. With the hotel and five stations, adequate oil station, restaurant and hotel accomodations will be available to those driving from Fort Worth to El Paso or vice versa.

The accompanying drawing shows the station and restaurant arrangements at Sweetwater. Other stations will be of similar design. The total investment per station will be approximately $30,000. The first station is located 3½ miles west of Sweetwater and the Eastland station will be one mile west of that city. The stations are located outside the cities to avoid traffic congestion and provide ample accommodations for the parking of cars within the station grounds.

The stations are of white stucco construction. The station proper provides complete gasoline, oil, greasing and tire service. Motorists driving into the station will be able to secure any service required with the exception of garage service. Eight gasoline pumps are provided. At the Sweetwater unit the gasoline and tire station will be leased to an oil company which will sell its products. Mr. Cummings has not decided on the method of operation for the other stations.

The restaurants will be operated on the Harvey House plan familiar to railroad travelers. First class service at reasonable prices will be available at all inns. The service will be standardized so far as this feature of the operation is concerned. Elaborate rest room accommodations will be a feature of the inn service. Each inn will have a table seating capacity for 56 people and lunch counter accommodations for 12 people. The interior is of Spanish design with a green color scheme. Fountain service is also provided.

Green flags with orange letters "SSS" are a distinctive exterior feature. Flood lighting is provided for night service.

APPOINT COMMITTEE TO CONSIDER OIL POLLUTION

As a result of conferences between representatives of the Bureau of Engineering and the State Health Department of Pennsylvania and leaders of the oil industry the National Petroleum Association has appointed a committee of seven executives to negotiate an agreement with the sanitary water board relative to the protection of streams against pollution from oil refineries.

It is anticipated that this agreement will be based upon the form of existing agreements already entered into by the sanitary water board with the by-product coal companies and organizations engaged in manufacturing gas.

RUSSIANS BUY EQUIPMENT

The Russian government has purchased eight cracking units of the Winkler-Koch type for installation at refineries located in that country. The units will have a capacity of 3,000 bbls. each. The order is said to have been the largest ever placed for American equipment by the Russian government.

BUYS INTEREST IN PIPE LINE

MUSKEGON, Mich., Aug. 19.—Carl J. Westlund, Muskegon gasoline service station operator and more recently an operator in the Muskegon oil field, has sold his interest in Westlund & Whitehead, Inc., operators of a 7-mile gathering line system in the field, to L. L. Lane of Chicago. Mr. Westlund and R. A. Whitehead of Chicago held equal interests in the pipe line system. The company has been operating in conjunction with the Michigan Central Refining Co. and using the latter's own pipe line system covering the producing leases of the Swastika Oil & Gas Co., also of Chicago and Muskegon. Daily runs through the combined gathering line system have been averaging about 3,000 to 3,500 bbls. recently with a large part of the crude moving by rail to the Northland Oil Co. of Chicago, which in turn shipped it on to various refineries.

LOWER CRUDE OIL RATE

MUSKEGON, Mich., Aug. 19.—Rail freight rates on crude oil from Muskegon to the Chicago refinery district will be reduced more than 20 per cent in a new tariff to be issued soon and effective Sept. 20, according to Ernest L. Wellman, president of the Wellman Oil Co., Grand Rapids. The reduction will be 5 cents per hundred pounds from the present rate of 24 cents to 17 cents. This represents a reduction from 67 to 47 cents a barrel, or a saving of 20 cents a barrel.

FIVE DIE IN EXPLOSION

Five men died as the result of an explosion August 13 at the Wilmington, Calif., refinery of the Shell Oil Co. of California. The explosion occurred in a cracking still.

One employe was instantly killed and four died later from burns. The dead are E. M. Ferguson, John Biddle, Lester J. Smith, James A. Bernere and Jeremiah Allen. J. B. Corbett was also seriously injured. The property loss from the fire and explosion was small.

BUYS OHIO JOBBER

The Refiners Oil Co. of Dayton, Ohio, has purchased the Brox Oil Co. of Shelby, Ohio. The Brox company has bulk plants at several Ohio cities with a few drive-in service stations.

Sketch of the service station and restaurant to be opened September 1 at Sweetwater, Tex.

LUB PRICES IN EAST SHOW BETTER TONE

(Continued from Page 137)

Petroleum Exports

Continued quiet in export gasoline markets is reported. Refiners are still holding the Gulf market at the levels established by the export association. There were no cargo inquiries reported in the market this week. A fair movement of motor fuel in less-cargo lots is reported, however, at the Gulf and at Atlantic refinery terminals, on bulk and cased stocks.

Kerosene export buying is along routine lines this week. No cargo transactions or inquiries are reported, but there is a well-sustained movement in odd lots, both cased and bulk. Export operators are still considering the possibility of increased buying of kerosene in this country for shipment to China in the event that the present strained relations between Russia and China developed into open hostilities.

Paraffin wax has sold in limited volume for export shipment, and the market remains in easy position on fully refined grades.

Diesel oil for export is quoted at $1.35 per barrel at the Gulf and bunker oil at 70 cents per barrel, both in cargo lots, but no trading is reported.

Lubricating oil has met with a better demand for export this week, and the market has worked into firmer position on all grades of cylinder stocks.

Operators in the local export market are inclined to attribute some of the current quiet in export gasoline and kerosene markets at the Gulf to competition afforded by Russia. The Soviet oil trust has developed a wide market for its gasoline and kerosene production, both in Great Britain and on the Continent, and it was inevitable that this development should be reflected in American refined products export totals.

Petroleum Exports

The following table shows principal exports of refined petroleum products from New York during the past three weeks (all figures in gallons unless otherwise noted):

	Week ended		
	Aug. 10	Aug. 3	July 27
Gasoline	98.000	594.500	739.600
Naphtha	295.000	2,279.400	1,314.100
Kerosene	47.000	107.200	414.300
Fuel oil	11.000	120.000	129.000
Lubricating oil	987.800	1,094.700	1,907,400
Petroleum refd.	780,000	1,053,300	2,877,000
	Pounds		
Petrolatum	8.000		
Paraffin wax	787.400	1,033,100	1,546,300
Refined	25.000	22.500	83.800
Scale	264.500	181.000	215.000
Lubricating grease	563,200	757,900	1,270.200

Sharp declines in export shipments were reported on all of the more important refined products during the week ended August 10, the falling off in foreign movement being due to the weak and unsettled markets for gasoline, kerosene, lub oils and other products during recent weeks. New business has been rather light during the current week, although some stocks are still moving into export channels against old contracts.

California Oil Receipts

Receipts of California crude and refined oils at Atlantic Coast ports for the week ended August 10 totaled 349,000 bbls., a daily average of 49.857 bbls., as compared with 900.000 bbls., a daily average of 128,571 bbls. for the preceding week and a daily average of 66,607 bbls. for the four weeks ended August 10. Details follow:

(Barrels of 42 gallons)

Baltimore	158.000
New York	75,000
Philadelphia	116,000
Total	349.000
Daily average	49.857
Daily average four weeks	66,607

There were no receipts of California crude or refined oils at Gulf Coast ports for the week.

Distribution of California oil receipts at Atlantic ports was as follows: Gasoline, 349,000.

Baltimore is expected to become an increasingly important factor in the eastern gasoline market situation through the distribution of considerable quantities of Pacific Coast motor fuel from that terminal. Several large companies are now receiving California gasoline at Baltimore and it is reported that gasoline storage terminal facilities there will be materially extended within the next few months to permit the handling of much larger quantities through that port.

Imports

Imports of crude and refined oils at the principal United States ports for the week ended August 10 totaled 1,796,000 bbls., a daily average of 256,571 bbls., compared with 1,891,000 bbls., a daily average of 270.142 bbls. for the previous week and a daily average of 269,857 bbls. for the four weeks ended August 10. Details follow:

(Barrels of 42 gallons)

At Atlantic Coast ports—	
Baltimore	213,000
Boston	69,000
New York	995,000
Philadelphia	336,000
Others	118,000
Total	1,731,000
Daily average	247,285
At Gulf Coast ports—	
New Orleans and Baton Rouge	65,000
Daily average	9,286
At all United States ports—	
Total	1,796,000
Daily average	256,571
Daily average four weeks	269,851

CONTRACT BUSINESS HEAVY IN CHICAGO

(Continued from Page 136)

winter season is its use for heating. This demand may be looked for in October for at that time the hotels and large stores as well as apartment buildings are obliged to be prepared to furnish heat whenever it is needed and they must have a supply on hand although they may use little at first.

Contracts on Low Basis

Right now there are some contracts being made and some of them are on a low basis. One set of contracts is based on the low of a daily publication. The plan is to take the low of the issue of the twenty-fifth of the month as the prevailing price for the first half of the following month and the price quoted in the issue of the tenth of the month is used for the last half of that month. The reason given by the seller for this method was that market changes were so slow that the seller always had advance notice of what was going to happen and could cover his sales in ample time. Some of these contracts are based on the market date of shipment with a maximum of 60 cents for 18-22 fuel oil and 2½ cents for industrial gas oil. These prices are considered low and to involve more or less of a gamble, yet they are the kind of contracts which buyers are offered by some sellers and are willing to sign.

There is some demand for the very heavy fuel oils with a gravity of 14 degrees or less. Only a few plants are equipped to use this grade and they are able to buy an efficient fuel at a low price. Some refiners are offering low gravity fuel oil of this character at 37½ to 40 cents a barrel. The West Texas situation has been pretty well cleared up and oil from that section is no longer considered the menace that it was a year ago. The high gravity, zero pour test oils are scarce and with the coming demand for heating uses, they are strongly held.

Demand for Motor Oils Eases Off

In lubricating oils the demand for motor oils has eased off a little and while the bright stock situation is no less strong the demand for the heavy summer oils is not as active. Bright stocks are urgently wanted by some refiners who are also compounders and by the larger compounders who are finding in many cases that their earlier contracts are not going to carry them through the year. Mid-Continent bright stocks are selling in this market at 36 to 38 cents in car lots and it is probable that even higher prices might be paid for some material if just the wanted grade and kind could be had. Generally there is no change.

In the distributing end of the business the month is being marked by a heavy gallonage. During the first ten days of this month the Illinois business showed a little drop and did not equal the same period in July. This was wholly due to the way in which users of gasoline supplied themselves in advance of the new state tax on gasoline. The first returns on this tax will not be made by the dealers to the state until after the fifteenth of next month. The managers of the new inspection law have been slow in functioning and returns on this new inspection have not begun. Reports are current of the purchase of jobbing businesses in various parts of the territory by some of the major companies but in several cases the information is given by one or both parties to the deal, that while the prospective buyer had looked over the books and properties of the company the deal had not been closed usually for the reason that the seller wanted too high a price. Established jobbers in this territory have been having a profitable season and as one of them said last week, he saw no reason why he should sell out unless he got his price.

Many of the jobbers look upon the new code of ethics as giving them as much protection as it gives to anybody and decidedly improving their business prospects. One of the greatest causes for lack of profit in the oil business has been unfair methods of competition. The present code may need further revision but if honestly administered it should do much to stabilize the distributing end of the business. With experience in the code, it will be easy to get changes which will increase its value to the legitimate dealer.

LARGE YIELDS FROM CARBONIZATION PLANTS

(Continued from Page 48)

at Barugh, Yorkshire. There are, however, many notable improvements on the Barugh plant, and it is claimed that the Askern works represent the last word in the economic production of solid domestic smokeless fuel from small coal and slack. The by-product recovery plant is also of an up-to-date type.

"The works at Askern at present consist of four batteries, each of 36 retorts, and as at Barugh, the retorts are iron castings made of special quality iron of the normal Parker design. Each retort consists of a nest of pipes which permit the equal heating throughout the entire charge. The period of carbonization is four hours at a temperature of 600 degrees Centigrade.

"The gas-handling plant represents an entirely new feature. In the ordinary process of tar or coal oil recovery, practically the whole of the water in the coal is condensed out as liquor along with the tar, and the two products separated by being allowed to stand in a decanting tank. In the Askern plant a system of electrostatic precipitation is employed for the recovery of the coal oil.

"The gas from the retorts passes by way of a 14-inch main to a coal-oil catch tank which serves to collect any coal oil which condenses in the main. From the coal oil catch the gas passes to the electrostatic precipitator, where the coal oil is precipitated from the hot gas. The gas is then led to an acid washer, where it is bubbled through a weak solution of acid in order to remove ammonia. After the acid washer, the gas passes through a water tube condenser, where all remaining light oils and moisture are condensed out.

"All the above apparatus is on the suction side of the exhausters. After passing through the exhauster, the gas goes to a scrubber for the extraction of crude motor spirit, while following the scrubber is a cyclone arrester for catching any entrained wash oil, the gas finally passing to the gas holder. The electrostatic precipitation plant is of the Simon-Carves Ferranti type. A transformer is installed to raise the incoming voltage to that required to give the necessary K.-V. output from the rectifier. The high tension output from the rectifier is a single phase uni-directional current of about 40,000 volts.

"The treater chamber consists of a tower-shaped vessel containing tubes which form the receiving electrodes, the discharge electrodes passing centrally down the tubes. The gas enters the vessel on the outside of the tubes and after passing downwards, proceeds to pass upwards through the tubes. The precipitated coal oil flows into the seal base of the treater and thence to the coal oil collecting tank. Inasmuch as this plant is not situated near a gas works, and in accordance with economical practice, the gas generated during the operation of the process is used for heating the retorts and for general boiler house requirements. The weekly output of the present plant will be 1,250 tons of coalite, 35,000 gallons of coal oil, 4,000 gallons of crude motor spirit, and 10 tons of sulphate of ammonia."

IODINE NUMBERS OF LUBRICATING OILS

(Continued from Page 48)

500 miles. Oils 35 and 57 were used in cars equipped with oil filters, but no abnormal change was found in the oil. Several explanations can be brought forward to account for the decrease of the iodine number. Thus, the unsaturated hydrocarbons, being more easily oxidized than the saturated, are removed during combustion by conversion into gaseous products, or they may be only partially oxidized to form the insoluble sludge and removed by precipitation. Further investigation should decide the point.

ROCK OIL CO FILES ARTICLES

GRAND RAPIDS, Mich., Aug. 19.—The Rock Oil Co. of Grand Rapids has filed articles of association providing a capital of $250.000 of which $201,600 is subscribed and paid in cash and a lease on the five-acre fox farm property in Section 11, Laketon Township. The company has one completed well on the property which came in July 18 as a 1,500-bbl. initial producer in the Dundee pay sands. This and two other wells now drilling are located on the W. P. Dinan property, NE SE, Section 12-10-17, Laketon Township. Officers of the company are: President, John Kamstra; vice president, John Stellard; secretary, Lawrence W. Budd, and treasurer, Samuel Ragir, all of Grand Rapids. E. P. Wyman of Detroit completes the board of directors.

MEXICO'S PRODUCTION DROPS

NEW YORK, Aug. 19.—Crude oil production in Mexico during June amounted to 2,942,354 bbls., a decrease of 81,539 bbls. from May and of 883,610 bbls. from June, 1928, production. Of the June total, 1,284,785 bbls. were light crude, against 1,300,893 bbls. in May and 1,657,569 bbls. heavy crude, against 1,723,000 bbls. in May.

RUMANIAN LEASE SALE

The Rumanian Ministry of Industry and Commerce invites bids for the purchase of the lease of 14 parcels of oil land of a total area of 438 hectares, situated in the following localities: Razvad, Gorgota, Ocnitza, Gura-Ocnitza, Cornet, Cricov, Tazlau and Moinesti.

The first bidding will take place in Bucharest, at the Ministry of Industry and Commerce, on September 2. If the offers received will not be considered satisfactory, a second bidding will be held on October 15, 1929.

The survey of the Rumanian Geological Institute has been published in the official gazette (Monitorul Official) No. 169 of August 2, 1929.

STANDARD OF RHODE ISLAND

NEW YORK, Aug. 19.—The Standard Oil Co. of Rhode Island has been granted a charter by the Secretary of State of Rhode Island. At the offices of the Standard Oil Co. of New York and of the Standard Oil Co. of New Jersey, it was stated that neither of these companies has any connection with the Standard Oil Co. of Rhode Island, incorporated in that state.

REFINERY AND CRUDE PRICES

Quotations on refined products are for interstate or export movement unless otherwise noted.

GASOLINE AND NAPHTHA

	Aug. 20		Aug. 13		Aug. 6	
OKLAHOMA (Group 3)—						
50-52 450 endpoint	.07½	.07¾	.07½	.07¾	.07¼	.07¾
56-58 450 endpoint	.07	.07¼	.07	.07¼	.07	.07¼
*58-60 437 endpoint (U. S. Motor)	.0778		.0753		.0735	
*60-62 437 endpoint	†.07¼	.07¾	†.07¼	.07½	.0769	
*60-62 400 endpoint	.08		.08		.0804	
*64-66 375 endpoint	.085		.0825		†.07¾	.08
68-70 360 endpoint	.08¼	.08½	.08¼	.08½	.07¾	.08
64-66 437 endpoint (blend)	.07	.07¼	.07	.07¼	.07	.07¼
NORTH TEXAS—						
56-58 450 endpiont	.07	.07¼	.07	.07¼	.07	.07¼
58-60 460 endpoint	.07	.07¼	.07	.07¼	.07	.07⅛
58-60 437 endpoint (U. S. Motor)	.07⅛	.07¼	.07⅛	.07⅜	.07	.07¼
60-62 400 endpoint	.07¼	.07⅜	.07¼	.07⅜	.07¼	
64-66 390 endpoint	.07½	.07⅝	.07½	.07⅝	.07½	.07⅝
64-66 375 endpoint	.07¾	.07⅞	.07¾		.07⅝	.07¾
68-70 360 endpoint	.08	.08¼	.08	.08¼	.07¾	.08
64-66 437 endpoint (blend)	.07	.07¼	.07	.07¼	.07¼	.07½
***NORTH LOUISIANA—**						
58-60 437 endpoint (U. S. Motor)	.08½		.08¼	.08½	.08	.08¼
***ARKANSAS—**						
58-60 437 endpoint (U. S. Motor)	.08½		.08¼	.08½	.08	.08¼
PENNSYLVANIA—						
52-54 Naphtha	.08	.08½	.08	.08½	.08	.08½
54-56 Naphtha	.08⅛	.08¾	.08⅛	.08¾	.08⅛	.08¾
58-60 Gasoline	.08¾	.09	.09	.09¼	.09¼	.09½
60 Gasoline	.09	.09¼	.09¼	.09½	.09½	.09¾
62 Gasoline	.09¼	.09½	.09¾	.10	.09¾	.10
64 Gasoline	.10½		.10½		.10½	
68-70 350 endpoint gasoline	.11		.11		.12	.12½
CALIFORNIA—						
58-60 437 endpoint (U. S. Motor) domestic.	.09	.10	.09	.10	.09	.10
CHICAGO DISTRICT (Based on Group 3)—						
50-52 450 endpoint (Naphtha)	.07¼	.07½	.07¼	.07½	.07¼	.07¾
56-58 450 endpoint	.07¼		.07¼		.07¼	
58-60 437 enupoint (U. S. Motor)	.07½	.07¾	.07¼	.07½	.07	.07¼
60-62 400 endpoint	.07¾	.08	.07⅞	.07⅞	.07½	.07⅞
64-66 375 endpoint	.08	.08¼	.08	.08¼	.07⅞	.08
68-70 360 endpoint	.08¼	.08½	.08⅛	.08⅜	.08¼	.08¾
64-66 437 endpoint (blend)	.07¼	.07½	.07⅜	.07⅝	.07⅛	.07⅜
GULF COAST (Export)—						
58-60 (U. S. Motor)	.08½		.08½		.08½	
60-62 400 endpoint	.09½		.09½		.09½	
61-63 390 endpoint	.09¾		.09¾		.09¾	
64-66 375 endpoint	.10		.10		.10	

*Weighted average prices August 19, 12 and 5, as reported by representative refiners. Sales to jobbers only. †No sales reported to jobbers. Price shows general market.

*Louisiana, Arkansas, Mississippi and East Texas delivery.

NATURAL GASOLINE

	Aug. 20		Aug. 13		Aug. 6	
OKLAHOMA (Group 3)—						
Grade A, 72-79.9, 375 e.p., rec. 90%	.06⅝	.06¾	.06⅝	.06½	.06¼	
Grade AA, 80-87.9, 375 e.p., rec. 90%	.06⅝	.06¾	.06¼	.06½	.06⅛	.06¼
Grade B, 76-83.9, 375 e.p., rec. 85%	.06½	.06⅝	.05⅞	.06	.05½	.05⅝
Grade BB, 84-92, 375 e.p., rec. 85%	.06½	.06⅝	.05⅞	.06	.05½	.05⅝
Grade C, 80-90, 375 e.p., rec. 78%	.06½	.06⅝	.05⅞	.06	.05½	.05¾
NORTH TEXAS—						
Grade A, 72-79.9, 375 e.p., rec. 90%	.06⅝	.06¾	.06⅜	.06½	.06¼	
Grade AA, 80-87.9, 375 e.p., rec. 90%	.06⅝	.06¾	.06¼	.06½	.06⅛	.06¼
Grade B, 76-83.9, 375 e.p., rec. 85%	.06½	.06⅝	.05⅞	.06	.05½	.05¾
Grade BB, 84-92, 375 e.p., rec. 85%	.06½	.06⅝	.05⅞	.06	.05½	.05¾
Grade C, 80-90, 375 e.p., rec. 78%	.06½	.06⅝	.05⅞	.06	.05½	.05¾
NORTH LOUISIANA—						
Grade AA, 80-87, 375 e.p., rec. 90%	.06¾	.07	.06¾		.06½	
Grade BB, 84-92, 375 e.p., rec. 85%	.06⅜	.06½	.06¼	.06⅜	.06	.06¼
Grade C, 80-90, 375 e.p., rec. 78%	.06⅜	.06⅝	.06¼	.06¾	.06	.06¼
CALIFORNIA—						
75-78 375-390 endpoint	.08¾	.09¼	.08¾	.09¼	.08¾	.09¼
CHICAGO DISTRICT (Based on Group 3)—						
Grade A, 72-79.9, 375 e.p., rec. 90%	.06½	.06⅝	.06¼	.06⅜	.06⅛	.06¼
Grade AA, 80-87.9, 375 e.p., rec. 90%	.06½	.06⅝	.06¼	.06⅜	.06⅛	.06¼
Grade B, 76-83.9, 375 e.p., rec. 85%	.06½	.06⅝	.05¾	.06	.05¾	
Grade BB, 84-92, 375 e.p., rec. 85%	.06½	.06⅝	.05¾	.06	.05¾	
Grade C, 80-90, 375 e.p., rec. 78%	.06½	.06⅝	.05¾	.06	.05¾	

BURNING OIL

	Aug. 20		Aug. 13		Aug. 6	
OKLAHOMA (Group 3)—						
41-43 water white kerosene	.05¼	.05⅝	.05⅛	.05½	.05⅛	.05½
42-44 water white kerosene	.05¾	.06⅛	.05¾	.06	.05⅝	.05¾
***NORTH LOUISIANA—**						
41-43 water white kerosene	.05¾		.05¾		.05½	
NORTH TEXAS—						
41-43 water white kerosene	.05	.05⅛	.05	.05⅛	.05	.05⅛
40-42 water white kerosene	.04¾	.05	.04¾	.05	.04¾	.05
***ARKANSAS—**						
41-43 water white kerosene	.05¾		.05¾		.05½	
PENNSYLVANIA—						
43 Kerosene prime white	.05¾	.06	.05¾	.06	.05¾	.06
45 Kerosene water white	.06	.06⅛	.06	.06⅛	.06	.06⅛
46 Kerosene water white	.06¼	.06½	.06¼	.06½	.06¼	.06½
47 Kerosene water white	.06½	.06¾	.06½	.06¾	.06½	.06¾
300 Mineral Seal	.06¾	.07	.06¾	.07	.06¾	.07
CALIFORNIA—						
38-40 water white Kero. (high-burning test)	.05½	.06	.05½	.06	.05½	.06
Engine distillate, 43-44, 445 endpoint	.08	.08¾	.08	.08¾	.08	.08¾
Engine distillate, 42-44, 480 endpoint	.07½	.08¼	.07½	.08¼	.07½	.08¼
CHICAGO DISTRICT (Based on Group 3)—						
41-43 water white kerosene	.05¼	.05½	.05¼	.05½	.05⅛	.05⅜
42-44 water white kerosene	.05½	.05⅝	.05½	.05¾	.05½	.05¾
GULF COAST (Export)—						
41-43 prime white	.07		.07		.07	
41-43 water white	.08		.08		.08	

*Louisiana, Arkansas, Mississippi and East Texas delivery.

FUEL OIL

	Aug. 20		Aug. 13		Aug. 6	
OKLAHOMA (Group 3)—						
Below 18 Fuel Oil, per bbl.	.45	.50	.45	.50	.45	.50
18-22 Fuel Oil, per bbl.	.50	.55	.50	.55	.50	.55
20-22 Fuel Oil, per bbl.	.55	.60	.55	.60	.55	.60
22-26 Fuel Oil, per bbl.	.62½	.67½	.62½	.67½	.62½	.67½
24-26 Fuel Oil, per bbl.	.70	.75	.70	.75	.67½	.72½
26-30 Fuel Oil, per bbl.	.80	.85	.80	.85	.80	.85
28-30 Fuel Oil, per bbl. (industrial)	.85	.90	.85	.90	.85	.90
32-36 Gas Oil (industrial)	.02½	.02⅝	.02½	.02⅝	.02⅜	.02⅝
32-36 Gas Oil (straw color)	.02⅝	.02⅞	.02⅝	.02⅞	.02⅝	.02⅞
36-38 Distillate	.03¼	.03⅜	.03¼	.03⅜	.03⅛	.03¼
38-40 Straw Distillate	.03½	.03¾	.03½	.03¾	.03⅜	.03¾
NORTH TEXAS—						
Below 20 Fuel Oil	.60	.65	.60	.65	.60	.65
24-26 Fuel Oil, per bbl.	.65	.70	.65	.70	.65	.70
32-36 Gas Oil (straw)	.02⅝	.02¾	.02⅝	.02¾	.02⅝	.02¾
38-40 Straw Distillate	.03⅜	.03⅝	.03⅜	.03⅝	.03⅜	.03⅝
***NORTH LOUISIANA—**						
18-20 Fuel Oil, per bbl.	.75		.75		.75	
30-32 Gas Oil	.02¾	.03	.02¾	.03	.02¾	.03
***ARKANSAS—**						
33-36 Distillate	.03	.03¼	.03	.03¼	.03	.03¼
30-32 Gas Oil	.02¾	.03	.02¾	.03	.02¾	.03
16-22 Refinery Fuel Oil, per bbl.	.75		.75		.75	
GULF COAST (South Texas)—						
Gas Oil	.03¾	.04	.04		.04	
Bunker C Fuel (cargo lots), per bbl.	.70	.80	.70	.80	.70	.80
Bunker C Fuel (small lots)	.95	1.00	.95	1.00	.90	.95
PENNSYLVANIA—						
30-34 Fuel Oil	.04	.04⅛	.04⅛	.04¼	.04⅛	.04¼
36-40 Fuel Oil	.04	.04¼	.04⅜	.04½	.04⅜	.04½
CALIFORNIA—						
33-36 Distillate	.04	.04½	.04	.04½	.04	.04½
26-32 Distillate	.03	.03½	.03	.03½	.03	.03½
15-20 Fuel Oil, Bunker (at tide water)	.65	.85	.65	.85	.65	.85
15-20 Fuel Oil (cargo lots), per bbl.	.70	.85	.70	.85	.70	.85
27 plus Diesel, per bbl.	.90	1.05	.90	1.05	.90	1.05
CHICAGO DISTRICT (Based on Group 3)—						
22-26 Fuel Oil, per bbl.	.62½	.67½	.62½	.67½	.62½	.67½
18-22 Fuel Oil, per bbl.	.50	.55	.50	.55	.50	.55
28-30 Fuel Oil	.90	.95	.90	.95	.90	.95
32-36 Gas Oil (zero)	.02⅝	.02¾	.02⅝	.02¾	.02½	.02¾
32-36 Gas Oil (industrial)	.02½	.02⅝	.02½	.02⅝	.02⅜	.02½
36-38 Distillate	.03¾	.03⅞	.03¾	.03⅞	.03¾	.03⅞
38-40 Straw Distillate	.03⅜	.03⅝	.03⅜	.03⅝	.03⅜	.03⅝

*Louisiana, Arkansas, Mississippi, East Texas delivery.

LUBRICATING OIL AND WAX

	Aug. 20		Aug. 13		Aug. 6	
OKLAHOMA (Group 3)—						
100 vis., 2 color, 20-25 cold test	.06¾	.07	.06¾	.07	.06¾	.07
100 vis., 3 color, 20-25 cold test	.05¾	.06	.05¾	.06	.05¾	.06
150 vis., 3 color, 20-25 cold test	.07¾	.08	.07¾	.08	.07¾	.08
150 vis., 4 color, 20-25 cold test	.07¼	.07½	.07¼	.07½	.07¼	.07½
180 vis., 3 color, 23-28 cold test	.09¼	.09½	.09¼	.09½	.09¼	.09½
180 vis., 5 color, 23-28 cold test	.08½	.08¾	.08½	.08¾	.08½	.08¾
200 vis., 3 color, 23-28 cold test	.09¾	.10	.09¾	.10	.09¾	.10
200 vis., 4 color, 23-28 cold test	.09¼	.09½	.09¼	.09½	.09¼	.09½
200 vis., 5 color, 23-28 cold test	.08¾	.09	.08¾	.09	.08¾	.09
240 vis., 3 color, 25-30 cold test	.13¼	.13½	.13¼	.13½	.13¼	.13½
240 vis., 4 color, 25-30 cold test	.12¼	.12½	.12¼	.12½	.12¼	.12½
240 vis., 5 color, 25-30 cold test	.11¾	.12	.11¾	.12	.11¾	.12
280 vis., 3 color, 25-30 cold test	.15¾	.16	.15¾	.16	.15¾	.16
280 vis., 4 color, 25-30 cold test	.14¾	.15	.14¾	.15	.14¾	.15
280 vis., 5 color, 25-30 cold test	.13¾	.14	.13¾	.14	.13¾	.14
Cylinder Stocks:						
600, steam refined, light green	.12	.14	.14	.16	.14	.16
600, steam refined, dark green	.11	.13	.13	.14	.13	.14
190-200 vis., D color Bright Stock	.40		.40		.40	
150-160 vis., D color Bright Stock	.35	.36	.35	.36	.35	.36
150-160 vis., E color Bright Stock	.33		.33		.33	
Waxes:						
124-126 White Crude Scale Wax	.02⅝	.02¾	.02⅝	.02¾	.02⅝	.02¾
PENNSYLVANIA—						
34 Neutral	.07½	.07¾	.07½	.07¾	.07½	.07¾
34 Sundebloom	.07½	.07¾	.07½	.07¾	.07¾	.08
36 Miners' Neutral	.07¼	.07½	.07¼	.07½	.07¼	.07½
150, 3 color	.18½	.19	.18½	.19	.20	.20¼
180, 3 color	.25	.25½	.25	.25½	.25	.25½
200, 3 color	.25	.25½	.25½	.26	.27	.27½
220, 3 color	.28½	.29	.28½	.29	.29½	.30
600, steam refined	.23	.23½	.24½	.25	.25½	.26
635, steam refined	.25½	.26	.28	.28½	.31	.32
650, steam refined	.28½	.29	.29	.29½	.31½	.32
600, Pennsylvania Flash	.30	.30½	.30	.31	.32	.33
630, Pennsylvania Flash	.35	.35½	.37	.37½	.39	.40
600, E filtered	.32	.32½	.33	.33½	.33	.34
600, D filtered	.36	.37	.36	.37	.36	.37
Pennsylvania Bright Stock	.51	.51½	.51	.51½	.51	.52
*122-124 White Crude Scale Wax	.02¾	.03	.02¾	.02⅞	.02¾	.02⅞
*124-126 White Crude Scale Wax	.03	.03⅛	.02⅞	.03	.02⅞	.03

*At New York.

GULF COAST (South Texas)—						
No. 2 color, 100 vis., pale oil	.05¾	.06½	.05¾	.06½	.06½	.07
No. 3 color, 200 vis., pale oil	.09	.09½	.09	.09½	.09	.09½
No. 3 color, 300 vis., pale oil	.09¾	.10¼	.09¾	.10¼	.09¾	.10¼
No. 3½ color, 500 vis., pale oil	.11½	.12	.11½	.12	.11½	.12
No. 4 color, 750 vis., pale oil	.12½	.13	.12½	.13	.12½	.13
No. 5 to 6 color, 200 vis., red oil	.08	.08½	.08	.08½	.08	.08½
No. 5 to 6 color, 300 vis., red oil	.08¾	.09¼	.08¾	.09¼	.08¾	.09¼
No. 5 to 6 color, 500 vis., red oil	.09½	.10	.09½	.10	.09½	.10
No. 5 to 6 color, 750 vis., red oil	.11¾	.12¼	.11¾	.12¼	.11¾	.12¼
No. 2½ color, 200 vis., pale filtered	.11	.12	.11	.12	.11	.12
No. 2½ color, 300 vis., pale filtered	.12	.13	.12	.13	.12	.13

REFINERY AND CRUDE PRICES

Quotations on refined products are for interstate or export movement unless otherwise noted.

No. 2½ color, 500 vis., pale filtered	.14½	.15	.14½	.15	.14½	.15
No. 2½-3 color, 750 vis., pale filtered	.17	.19	.17	.19	.17	.19
CALIFORNIA—						
130 vis., 2½-3 color	.10¼	.10½	.10¼	.10½	.10¼	.10½
200 vis., 2½-3 color	.11½	.11¾	.11½	.11¾	.11½	.11¾
300 vis., 3-3½ color	.13	.13½	.13	.13½	.13	.13½
350 vis., 3½-4 color	.13½	.13¾	.13½	.13¾	.13½	.13¾
400 vis., 3½-4 color	.15	.15½	.15	.15½	.15	.15½
Red Neutral:						
200 vis., 4½-5 color	.11	.11¼	.11	.11¼	.11	.11¼
300 vis., 5-6 color	.12	.12¼	.12	.12¼	.12	.12¼
400 vis., 5-6 color	.13¼	.14	.13¼	.14	.13¼	.14
500 vis., 4½-5 color	.14¼	.15½	.14¼	.15½	.14¼	.15½
500 vis., 5-6½ color	.15	.15¼	.15	.15¼	.15	.15¼
600 vis., 6½ plus color	.16	.16¼	.16	.16¼	.16	.16¼

Note—Bright stocks are not manufactured commercially on the Pacific Coast.

NEW YORK (BAYONNE) REFINERY PRICES

	Aug. 20		Aug. 13		Aug. 6	
Gasoline, U. S. Motor, 58-60, 437	.09½	.10	.09½	.10	.10	
Kerosene, water white, 41-43	.07¾	.08	.07¾	.08	.07¾	.08
*Fuel Oil, Bunker "C," 14-16, per bbl.	1.05		1.05		1.05	
†Fuel Oil, Diesel, 28-30, per bbl.	2.00		2.00		2.00	
Gas Oil, 32-36 gravity	.05¼		.05¼		.05¼	
25 pale Paraffin Oil	.10½		.10½		.10½	
28 pale Paraffin Oil	.07¼		.07¼		.07¼	
285 red Paraffin Oil	.11½		.11½		.11½	
250 red Paraffin Oil	.11		.11		.11	
225 red Paraffin Oil	.09½		.09½		.09½	
200 red Paraffin Oil	.09		.09		.09	
Refined Wax:						
120-122 a.m.p., per lb.	.03½		.03½		.03½	
125-127 a.m.p., per lb.	.039		.04		.04	
130-132 a.m.p., per lb.	.05¼		.04¾		.04¾	
133-135 a.m.p., per lb.	.05¾		.06		.06	
135-137 a.m.p., per lb.	.05⅞		.06⅛		.06⅛	
Petrolatum in barrels, carload lots, per pound:						
Dark green	.019		.019		.019	
Amber	.03⅝		.03⅝		.03⅝	
Extra amber	.03⅞		.03⅞		.03⅞	
Cream	.06⅜		.06⅜		.06⅜	
Lily White	.07⅜		.07⅜		.07⅜	
Snow White	.08⅜		.08⅜		.08⅜	

*Lighterage 5.0 cents a barrel extra. †Lighterage 6.5 cents a barrel extra.

NEW YORK (BAYONNE) EXPORT PRICES

	Aug. 20		Aug. 13		Aug. 6	
Kerosene, prime white	.08		.08		.08	
Kerosene, water white	.09		.09		.09	
600, steam refined cylinder stocks, in bbls.	.32		.31	.34	.31	.34
635, steam refined	.34		.33	.36	.33	.36
650, steam refined	.38		.37	.40	.37	.40
600, Pennsylvania Flash	.44		.43	.44	.43	.44
630, Pennsylvania Flash	.48		.47	.49	.47	.49
600, Warren E	.41		.40		.40	
600, Oil City E	.40		.39		.39	
Light 140-150 Bright Stocks	.61		.60		.60	
Dark 140-150 Bright Stocks	.59		.58	.59	.58	.59

LOS ANGELES EXPORT PRICES

	Aug. 20		Aug. 13		Aug. 6	
Kerosene, water white	.05	.05½	.05	.05½	.05	.05½
U. S. Motor Gasoline, 53-55 437 e.p.	.07	.07½	.07	.07½	.07	.07½

CRUDE OIL PRICES

OKLAHOMA, KANSAS, NORTH AND EAST CENTRAL TEXAS

Corsicana heavy (January 11)* ..... .80
Other fields .....See gravity table

*Posted by Magnolia Petroleum Co.

TEXAS PANHANDLE

Gray County, Wheeler County and Carson-Hutchinson Counties—See gravity table.

WEST TEXAS

Iatan* .....Same as North Texas
Crane-Upton-Crockett, Pecos., Winkler, Mitchell, and Glasscock (See gravity table).
Chalk† ..... .65

*Includes Howard County and Westbrook Fields.
†Posted by Humble Oil & Refining Co.

ARKANSAS-NORTH LOUISIANA

Smackover, below 24 gravity (May 20, 1929) .....$ .85
Smackover, 24 gravity and above (May 20, 1929) 1.00
Cotton Valley (Below 36 gravity May 22) ..... .85
Bellevue (May 29, 1929) 1.30
Urania (May 21, 1929) 1.10
East El Dorado (May 22, 1929) ..... .85
Other fields.....See gravity table

Cotton Valley crude above 36 gravity takes same gravity price schedule as shown for North Louisiana and Arkansas crude in Mid-Continent gravity price table.

Note—Smackover, Cotton Valley and Bellevue posted by Standard Oil Co. of Louisiana, and Magnolia Petroleum Co.; Urania posted by Louisiana Oil Refining Corp.; East El Dorado, Magnolia Petroleum Co.

GULF COAST

Grade A (May 20)* $1.30
Grade B .....See gravity table
Jennings, La. (March 14)† 1.05
Saratoga, Batson, Dayton (March 14, 1927)‡ 1.20
Markham (March 14)§ 1.00
High Island (December 14)¶ 1.00

*Humble Oil & Refining Co., The Texas Company, Gulf Pipe Line Co., and Sun Pipe Line Co. †Gulf Pipe Line Co. ‡Sun Pipe Line Co. §The Texas Company. ¶Posted by Gulf Pipe Line Co.

ROCKY MOUNTAIN STATES
Ohio Oil Co.-Midwest Refining Co.
(Effective May 21, 1929)

Rock Creek, Wyo. $1.40
Salt Creek .....See gravity table
Big Muddy 1.43
Grass Creek, heavy (July 27, 1928) ... .90
Grass Creek, light 1.65
Mule Creek 1.20
Elk Basin 1.65
Lance Creek 1.68
Poison Spider (March 14, 1927) 1.00
Notches (March 14, 1927) ..... .65
Rex Lake (February 22) 1.10
Osage 1.65
Lost Soldier (contract, May 22) 1.05
Hamilton Dome (March 14, 1927) ..... .85
Pedro 1.25
Greybull 1.65
Four Bear ..... .85
Cat Creek (Montana) (July 27, 1928).. 1.48
Sunburst (Montana) (May 23, 1929) ... 1.75
Torchlight 1.65
Hogback (New Mexico) 1.70

Note—Salt Creek, Osage, Cat Creek, Greybull and Hogback posted by Midwest Refining Co., and the remainder by the Ohio Oil Co. Both companies post Grass Creek light and Elk Basin.

SOUTH CENTRAL AND SOUTHWESTERN TEXAS

Luling (May 2)* .....$ .90

(Continued on Page 144)

CRUDE OIL GRAVITY TABLE

Gravity—	Okla., Kans., N. C. Texas	No. La and Arkansas	Crane, Upton, Winkler, Crockett, Pecos, Howard, Texas crudes, and Lea, N. Mex.	Stephens, Ark.	Wheeler (Texas Panhandle)	Gray County (Texas Panhandle)	Carson and Hutchinson (Texas Panhandle)	Salt Creek, Wyo.	Grade B and Light Crude (G. Coast)	Somerset (South Central Texas)
	1	2	3	4	5	6	7	8	9	10
24 and above	....	....	....	....	....	....	....	....	....	....
Below 24	....	....	....	....	....	....	....	....	....	....
Below 25	.85	....	.70	....	....	....	....	....	1.15	....
25 to 25.9	.90	....	.74	....	....	....	....	....	1.18	....
26 to 26.9	.95	....	.78	....	....	....	....	....	1.21	....
27 to 27.9	1.00	....	.82	....	....	....	....	....	1.24	....
Below 28	....	1.00	....	.90	.90	.90	.90	....	....	....
28 to 28.9	1.05	1.05	.86	.94	.90	.90	.90	....	1.27	....
29 to 29.9	1.10	1.10	.90	.98	.90	.95	.90	1.10	1.30	....
30 to 30.9	1.15	1.15	.95	1.02	.95	1.00	.90	1.15	1.33	....
31 to 31.9	1.20	1.20	.98	1.06	1.00	1.05	.90	1.20	1.36	....
32 to 32.9	1.25	1.25	1.02	1.10	1.05	1.10	.95	1.25	1.39	1.05
33 to 33.9	1.30	1.30	1.06	....	1.10	1.15	1.00	1.30	1.42	1.07
34 to 34.9	1.35	1.35	1.10	....	1.15	1.20	1.05	1.35	1.45	1.09
35 to 35.9	1.40	1.40	1.14	....	1.20	1.25	1.10	1.40	1.48	1.11
36 to 36.9	1.45	1.45	1.18	....	1.25	1.30	1.15	1.45	....	1.13
37 to 37.9	1.50	1.50	....	....	1.30	1.35	1.20	1.50	....	1.15
38 to 38.9	1.55	1.55	....	....	1.35	1.40	1.25	....	....	1.17
39 to 39.9	1.60	1.60	....	....	1.40	1.45	1.30	....	....	....
40 to 40.9	1.65	1.65	....	....	1.45	1.50	1.35	....	....	....
41 to 41.9	1.70	1.70	....	....	1.50	1.55	1.40	....	....	....
42 to 42.9	1.75	1.75	....	....	1.55	1.60	1.45	....	....	....
43 to 43.9	1.80	1.80	....	....	1.60	1.65	1.50	....	....	....
44 and above	1.85	1.85	....	....	1.65	1.70	1.55	....	....	....

Column 1, Note—Magnolia Petroleum Co. posted schedule May 20, 1929, making price below 26 gravity 70 cents per barrel, 26-26.9 gravity 75 cents, 27-27.9 gravity 85 cents, 28-28.9 gravity 90 cents, 29-29.9 gravity 95 cents, 30-30.9 gravity $1.05, and 31-31.9 gravity $1.15, with balance of the price schedule as shown above.

Oklahoma—Carter Oil Co., Prairie Oil & Gas Co., Sinclair Oil & Gas Co., Gypsy Oil Co., The Texas Company, May 20.

North Central Texas—Including Ranger, Mexia, Powell, Richland, Wortham, Lytton Springs, Currie, Nocona and Moran, Prairie Oil & Gas Co., Sinclair Oil Refining Co., Humble Oil & Refining Co., The Texas Company and Gulf Refining Co., May 20

Kansas—Prairie, Sinclair, The Texas Company and Carter, May 20.

Column 2—Arkansas and North Louisiana—(Caddo, Bull Bayou, Crichton, Cotton Valley, above 36 gravity, DeSoto, Haynesville, Homer and El Dorado only) May 22, Standard Oil Co. of Louisiana, Louisiana Oil Refining Co., Gulf Refining Co., Magnolia Petroleum Co., schedule applies to Pine Island, Haynesville, Bull Bayou, Louisiana and El Dorado, Ark., light crude.

Column 3—Humble Oil & Refining Co. and Magnolia Petroleum Co., May 20.

Column 4—Atlantic Oil Producing Co., Prairie Oil & Gas Co., Louisiana Oil Refining Corp., May 21, 1929.

Columns 5, 6 and 7—Humble Oil & Refining Co., Magnolia Petroleum Co., May 20, 1929.

Column 8—Midwest Refining Co., May 20, 1929. All crude over 37 gravity $1.50 per barrel.

Column 9—Humble Oil & Refining Co., May 20, 1929, (schedule ends 35 and above.)

Column 10—Grayburg Pipe Line Co. and Pioneer Oil & Refining Co., April 7.

CALIFORNIA CRUDE OIL PRICES

Standard Oil Co.-Union Oil Co. (Effective January 18, 1929

Gravity—	Salt Lake, Potrero, Newport, Long Beach, Summerland, Lawndale, Los Angeles, Fullerton, Richfield, Torrance, Olinda-Brea, Alamitos Heights, Signal Hill, Seal Beach, Huntington Beach, Athens, Inglewood, Rosecrans-Dominguez, Watsonville	Whittier, La Habra, Coyote Hills	Midway-Sunset, Elk Hills, Lost Hills, Belridge, Buena Vista Hills	Montebello	Santa Fe Springs	Santa Maria Coalinga	Wheeler Ridge Fruitvale	Orcutt Ventura, Rincon	Ventura Ave.	Elwood Terrace
	1	2	3	4	5	6	7	8	9	10
14 to 14.9	.70	.70	.50	.70	....	.50	.50	.65	.70	....
15 to 15.9	.70	.70	.50	.70	....	.50	.50	.65	.70	....
16 to 16.9	.70	.70	.50	.70	....	.50	.50	.65	.70	....
17 to 17.9	.70	.70	.50	.70	....	.50	.50	.65	.70	....
18 to 18.9	.75	.75	.56	.70	....	.56	.56	.70	.75	....
19 to 19.9	.80	.80	.62	.75	....	.62	.62	.70	.80	....
20 to 20.9	.85	.84	.68	.80	....	.68	.68	.70	.85	....
21 to 21.9	.89	.88	.74	.85	.89	.74	.74	.86	.86	....
22 to 22.9	.93	.91	.80	.90	.92	.80	.80	.87	.87	....
23 to 23.9	.97	.94	.85	.95	.95	.85	.85	.90	.90	....
24 to 24.9	1.01	.97	.90	.98	.98	.88	.88	.94	.94	....
25 to 25.9	1.05	1.00	.95	1.01	1.01	.91	.91	.98	.98	....
26 to 26.9	1.09	1.04	1.00	1.04	1.04	.94	.94	1.02	1.02	....
27 to 27.9	1.13	1.08	1.05	1.07	1.07	.98	.97	....	1.06	....
28 to 28.9	1.17	1.12	1.10	1.10	1.10	1.02	....	....	1.10	....
29 to 29.9	1.21	1.16	1.16	1.13	1.15	1.06	....	....	1.14	....
30 to 30.9	1.25	1.20	1.22	1.16	1.20	1.10	....	....	1.18	....
31 to 31.9	1.30	....	1.28	....	1.25	1.14	....	....	1.23	....
32 to 32.9	1.35	....	1.34	....	1.30	1.18	....	....	1.28	....
33 to 33.9	1.41	....	1.40	....	1.35	1.22	....	....	1.34	....
34 to 34.9	1.47	....	1.46	....	1.40	1.26	....	....	1.40	1.16
35 to 35.9	1.53	....	....	....	1.45	1.30	....	....	1.46	1.22
36 to 36.9	1.59	....	....	....	1.50	....	....	....	1.52	1.28
37 to 37.9	1.65	....	....	....	1.55	....	....	....	1.58	1.34
38 to 38.9	1.71	....	....	....	1.60	....	....	....	1.64	1.40
39 to 39.9	1.77	....	....	....	1.65	....	....	....	1.70	1.46
40 to 40.9	1.83	....	....	....	....	....	....	....	1.76	1.52
41 to 41.9	1.89	....	....	....	....	....	....	....	1.82	1.58
42 to 42.9	1.95	....	....	....	....	....	....	....	1.88	1.64

Kern River, Newhall-McKittrick, Mount Poso and Round Mountain 11 to 13.9 gravity 45 cents, 14 gravity and above 50 cents, effective October 2, 1929. On December 1, 1928, the Union Oil Co. posted Midway-Sunset, Elk Hills, Buena Vista, Lost Hills and Coalinga crude as follows: 11 to 13.9 gravity at 45 cents, 14 gravity and above 50 cents.

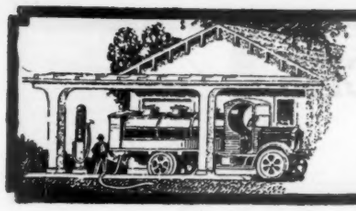
Column 1—Signal Hill, Seal Beach, Huntington Beach and Alamitos Heights crude, 14 to 32.9 gravity, inclusive; Richfield, Olinda-Brea and Fullerton, 14 to 30.9 gravity; Torrance and Inglewood, 14 to 28.9 gravity; Domingues and Athens-Rosecrans, 24 to 42.9 gravity.

Column 2—Whittier crude, 14 to 22.9 gravity; Coyote Hills, 14 to 30.9 gravity.

Column 3—Kern River, Newhall and McKittrick, 11 to 19.9 gravity; Midway-Sunset, Buena Vista and Elk Hills, 11 to 33.9 gravity; Lost Hills, 11 to 34.9 gravity; oil below 14 gravity posted at 45 cents.

Column 6—Oil below 14 gravity posted at 45 cents.

Columns 8 and 9—Posted by Union Oil Co. only.



TANK WAGON MARKETS

Tank wagon quotations for gasoline and kerosene in United States as furnished by the larger marketing concerns Aug. 20.

ALL TANK WAGON AND SERVICE STATION QUOTATIONS INCLUDE TAXES

STANDARD OIL CO. (INDIANA)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Chicago dist.†..	19.0	20 0	3.0	13.0
Decatur, Ill. ...	19.2	20.2	3.0	13.1
E. St. Louis ...	18.4	17.4	3.0	12.2
Joliet	19.4	20.4	3.0	13.3
Peoria	19.2	20.2	3.0	13.1
Quincy	19.2	20.2	3.0	12.9
Davenport, Ia..	19.5	20.5	3.0	13.3
Des Moines ...	19.5	20.5	3.0	13.3
Keokuk	19.5	20.5	3.0	13.3
Sioux City	19.1	20.1	3.0	12.9
Duluth, Minn..	20.5	21.5	3.0	13.9
Mankato	20.1	21.1	3.0	13.7
Minneapolis ...	20.2	21.2	3.0	13.9
LaCrosse, Wis..	19.2	20.2	2.0	14.0
Milwaukee	18.1	19.1	2.0	12.9
Madison	17.3	18.3	2.0	13.1
Detroit, Mich...	19.8	20.8	3.0	14.7
Grand Rapids..	19.7	20.7	3.0	14.6
Saginaw	19.9	20.9	3.0	14.8
Evansville, Ind.	20.0	21.0	4.0	14.0
Fort Wayne ...	20.4	21.4	4.0	14.4
Indianapolis ..	20.2	21.2	4.0	14.2
South Bend ...	20.4	21.4	4.0	14.4
Fargo, N. D. ..	21.9	22.9	5.0	15.9
Huron, S. D. ..	21.3	22.3	4.0	14.7
Sioux Falls	20.1	21.1	4.0	14.4
K. C., Mo.* ...	18.9	19.9	3.0	11.6
Springfield* ..	18.8	19.8	3.0	12.5
St. Louis*	17.9	18.9	2.5	12.3
St. Joseph	18.5	19.5	2.0	12.0
Wichita, Kans..	17.8	18.8	3.0	11.8
Bartlesville, Ok.	18.5	19.5	4.0	11.5

*State tax 2 cents; remainder city tax.
†Effective February 20, discounts on Q.D.A. in Chicago district 2 cents off service station price on purchases of 500 gallons or more per month and 4 cents on purchases of 1,000 gallons or more per month.

NAPHTHA

	Tank wagon	Tank car
Oleum spirits	15.7	12.9
V. M. & P. Naphtha	17.2	13.9
Cleaner's naphtha	17.0	14.9
Stanisol	18.0	15.4

Tank wagon prices f.o.b. Chicago; tank car prices f.o.b. Whiting.

STANOLIND FURNACE OIL IN CHICAGO

Less than 100 gallons	9.0
100 to 799 gallons	8.0
800 gallons or more	7.5

Note—Outside Chicago furnace oil discount of 1 cent per gallon is given on deliveries of 100 to 349 gallons and 1½ cents on deliveries of 350 gallons or more.

The following quantity discounts from the service station price are allowed on monthly sales of gasoline; 2,000 gallons or less, 2 cents; more than 2,000 and less than 6,000 gallons, 2¼ cents; more than 6,000 gallons, 3 cents. Discounts are allowed each month, and they are not cumulative. Delivery tickets showing date and quantity delivered must be sent to the seller before the tenth of the month to secure the discount on the previous month's purchases.

SOUTHWESTERN DISTRICT

Magnolia Petroleum Co.

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Dallas, Tex. ...	17.0	21.0	4.0	13.0
Fort Worth ...	17.0	20.0	4.0	12.0
Houston	17.0	21.0	4.0	11.0
San Antonio ...	17.0	21.0	4.0	11.0
El Paso	17.0	21.0	4.0	16.0
Texarkana	17.0	19.0	4.0	12.0
Muskogee, Ok.*	17.0	20.0	4.0	13.0
Okla. City* ...	17.0	20.0	4.0	10.0
Tulsa*	15.0	19.0	4.0	10.0
Ft. Smith, Ark.	15.0	17.0	5.0	12.0
Little Rock ...	19.0	23.0	5.0	13.0

*Gasoline tank wagon price to dealers 2 cents under posted tank wagon.

ROCKY MOUNTAIN DISTRICT

Continental Oil Co.

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Denver, Colo...	18.0	21.0	4.0	15.5
Pueblo	18.0	21.0	4.0	15.5
Grand Junction	22.5	25.5	4.0	19.0
Casper, Wyo. ..	21.0	24.0	4.0	14.0
Cheyenne	22.0	25.0	4.0	15.5
Butte, Mont. ..	25.5	28.5	5.0	20.0
Helena	25.5	28.5	5.0	20.0
Salt Lake, Utah	22.0	25.0	3.5	17.0
Albu'que, N. M.	21.0	24.0	5.0	17.0
Boise, Idaho ..	24.5	27.5	4.0	19.0
Twin Falls	24.5	28.5	4.0	19.0

PENNSYLVANIA—DELAWARE AND PART NEW ENGLAND

The Atlantic Refining Co.

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Pittsburgh, Pa..	17.0	*23.0	...	14.0
Philadelphia ..	17.0	*23.0	...	14.0
Scranton	17.0	*23.0	...	14.0
Allentown	17.0	*23.0	...	14.0
Altoona	17.0	*23.0	...	14.0
Erie	14.0	*19.0	...	14.0
Dover, Del. ...	20.0	22.0	3.0	14.0
Wilmington ...	20.0	23.0	3.0	14.0
Springf'd, Mass.	18.0	20.0	2.0	15.0
Worcester	17.0	18.0	2.0	15.0
Boston	18.0	20.0	2.0	15.0
Providence, R.I.	16.0	17.0	2.0	15.0
Hartford, Conn.	18.0	20.0	2.0	14.0
New Haven ...	18.0	20.0	2.0	15.0

*Includes tax of 4.0 cents. Pennsylvania tax is collected by the dealer and paid by him direct to the State. The Atlantic Refining Co. recognizes a 2-cent per gallon discount on gasoline from its posted tank wagon markets on sales to dealers for purposes of resale. The Atlantic Refining Co. also recognizes a maximum discount of 2 cents per gallon on gasoline to commercial accounts under contract for one year.

NEW YORK AND PART OF NEW ENGLAND DISTRICT

Standard Oil Co. (New York)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Albany, N. Y...	18.0	20.0	2.0	15.0
New York* ...	19.0	21.0	2.0	15.0
Buffalo	18.0	20.0	2.0	14.0
Rochester	18.0	20.0	2.0	14.0
Syracuse	18.0	20.0	2.0	15.0
Boston, Mass...	18.0	20.0	2.0	15.0
Augusta, Me....	20.0	22.0	4.0	15.0
Manch't'r, N.H.	20.0	22.0	4.0	15.0
Burlington, Vt..	19.0	20.0	4.0	15.0

*Prices in steel barrels.

SOUTHERN DISTRICT

Standard Oil Co. (Kentucky)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Atlanta, Ga. ...	20.0	22.0	4.0	16.5
Augusta	20.0	22.0	4.0	15.5
Macon	21.0	23.0	4.0	16.5
Savannah	20.0	22.0	4.0	15.5
Birm'ham, Ala..	20.0	22.0	4.0	15.0
Mobile	20.0	22.0	4.0	15.0
Montgomery ...	21.0	23.0	4.0	16.5
Clarks'le, Miss..	20.0	22.0	5.0	13.5
Jackson	21.0	23.0	5.0	13.0
Natchez	20.5	22.5	5.0	14.0
Gulfport	22.5	24.5	5.0	14.0
Vicksburg	20.5	22.5	5.0	14.0
Jack'ville, Fla..	22.0	24.0	6.0	14.5
Miami	23.0	25.0	6.0	15.5
Pensacola	23.0	25.0	6.0	14.5
Tampa	22.0	24.0	5.0	15.5
Lexington, Ky..	21.0	22.0	5.0	15.5
Covington	21.0	22.0	5.0	15.5
Louisville	21.0	23.0	5.0	15.0
Ashland	18.0	19.0	5.0	15.5
Catlettsburg ..	18.0	19.0	5.0	15.5

In addition to the state tax of 4 cents on gasoline, Montgomery has city tax of 1 cent on gasoline and one-half cent on kerosene. Kerosene prices in Georgia include 1-cent tax. In Florida, an inspection fee of 0.125 cent; in Alabama, an inspection fee of one-half cent on kerosene and one-fortieth cent on gasoline. Pensacola and Mobile taxes include 1-cent city levy. Gulfport tax includes privilege tax of 2 cents in addition to state tax.

Effective April 2, price to dealers 2 cents under posted tank wagon price.

PACIFIC COAST TERRITORY

Standard Oil Co. (California)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
San Francisco.	20.0	24.0	3.0	15.5
Los Angeles ..	19.5	23.5	3.0	15.5
Reno, Nev.	24.0	26.0	4.0	19.0
Portland, Ore ..	20.5	24.5	3.0	16.5
Seattle, Wash..	19.5	23.5	3.0	16.5
Tacoma	19.5	23.5	3.0	16.5
Spokane	23.5	27.5	3.0	20.5
Phoenix, Ariz..	18.0	22.0	4.0	20.5

NEBRASKA

Standard Oil Co. (Nebraska)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Omaha	20.25	22.25	4.0	13.25
McCook	21.75	23.75	4.0	14.75
Norfolk	20.75	22.75	4.0	13.75
N. Platte	21.75	23.75	4.0	14.50
Scottsbluff	21.75	23.75	4.0	14.25

ATLANTIC COAST DISTRICT

Standard Oil Co. (New Jersey)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Atlantic City ..	14.0	18.0	2.0	13.0
Newark, N. J...	16.0	20.0	2.0	13.0
Annapolis, Md..	18.0	22.0	4.0	13.0
Baltimore	18.0	22.0	4.0	12.0
Cumberland ...	18.0	22.0	4.0	13.0
Washington ...	16.0	20.0	2.0	12.0
Danville, Va. ..	19.0	23.0	5.0	12.0
Norfolk	19.0	23.0	5.0	13.0
Petersburg	19.0	23.0	5.0	13.0
Roanoke	18.0	21.0	5.0	13.0
Richmond	19.0	23.0	5.0	13.0
Charlest'n, W.Va.	18.0	22.0	4.0	13.0
Keyser	18.0	22.0	4.0	13.0
Parkersburg ...	18.0	22.0	4.0	13.0
Wheeling	18.0	22.0	4.0	13.0
Charlotte, N. C.	19.0	23.0	5.0	13.0
Hickory	19.0	23.0	5.0	13.0
Mt. Airy	19.0	23.0	5.0	13.0
Salisbury	17.0	20.0	5.0	13.0
Charleston, S.C.	20.0	24.0	6.0	13.0
Columbia	20.0	24.0	6.0	13.0

OHIO

Standard Oil Co. (Ohio)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Ohio points* ..	19.0	20.0	4.0	†13.6

*Dealers and commercial accounts 2 cents under tank wagon.
†Service station price 15 cents.

CENTRAL SOUTH DISTRICT

Standard Oil Co. (Louisiana)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
N. Orleans, La.*	16.5	20.5	5.0	16.0
Baton Rouge ..	16.0	20.0	4.0	14.5
Alexandria† ...	18.0	22.0	5.0	16.0
Lafayette†	18.0	22.0	5.0	14.0
Lake Charles†..	18.5	22.5	5.0	16.0
Shreveport	17.5	21.5	4.0	15.0
Knoxv'le, Tenn.	20.0	24.0	5.0	16.0
Memphis	18.0	22.0	5.0	12.5
Chattanooga ..	20.0	24.0	5.0	16.0
Nashville	19.0	23.0	5.0	16.0
Bristol	19.0	23.0	5.0	14.0
Lt. Rock, Ark..	19.0	23.0	5.0	13.0

*Tax of 5 cents includes city tax of 1 cent. Louisiana Kerosene prices include 1-cent state tax and 1-cent parish tax.
†Includes 1-cent parish tax.

CRUDE PRICE CHANGES

August 16.—Joseph Seep Purchasing Agency reduced all Pennsylvania grade crude 25 cents except that in Buckeye pipe lines which was cut 30 cents. A 5-cent lower price was also posted on the respective grades of oil run prior to July 1.

FURTHER WEAKNESS IN GULF COAST FUEL OIL

HOUSTON, Tex., Aug. 20.—Further weakening of fuel which now has spread to gas oils was indicated in Gulf Coast refinery markets the past week. Gas oils, which have been fairly steady, developed a softer tone for the same reason. Fuel oils are weak due to the inability to move these materials because of the tanker situation. The slight lowering of the tanker rate the preceding week to around 38 cents caused sellers to attempt to move some of these materials to the Atlantic Seaboard by lowering quotations which for several weeks had been held at a nominal figure because of the inability to ship at any price. Low sulphur content Gulf Coast oils were being offered from some sources Tuesday at 3¾ cents, a reduction of a quarter of a cent from the previous nominal market.

The tightness of tankers and the present rate, which still seems to be prohibitive against Gulf Coast products competing on the Atlantic Seaboard, prevented any significant amount of fuel oil or gas oil being moved, and stocks of both these products have been accumulating.

Gas oils have not reflected the weakness as much as fuel oils until now largely because they are usually as freely offered on the open market and a large part of the production is consumed in cracking by Coastal refiners.

No important changes were indicated in pale and red oils which continue sloppy. With the demand slow at this time of year sellers are finding considerable competition in moving all lubricating stocks.

NEW BRADFORD OIL CO. IN EXPANSION PROGRAM

NEW YORK, Aug. 20.—The New Bradford Oil Co. of Colorado will acquire 80 per cent of the stock of the Argo Oil Co. of Delaware, James Owen, president of the New Bradford, announced here. The deal involves the payment of $435,000 in cash and an exchange of Argo common for New Bradford common stock, worth at present market prices approximately $1,250,000. The New Bradford Oil Co. controls the Mountain & Gulf Oil Co. and Salt Creek Consolidated Oil Co. The Argo acquisition provides for eastern extension of the company's interests. New Bradford stockholders will meet September 30 to act on the proposal of acquiring control of the Argo company. The companies named are all prominent in the Rocky Mountain Field.

CRUDE OIL PRICES

(Continued from Page 143)

Mirando (May 20, 1929)†	.90
Salt Flat (May 20, 1929)§	1.25
Rockdale-Minerva (April 15): ..	
Below 28 gravity	1.25
28-38.9 gravity	1.27
39-39.9 gravity	1.29
40 and above	1.31
Thrall‡	....
Callihan (May 15)	1.75
Lytton Springs (Lockhart)	See gravity table
Somerset	See gravity table

*Posted by Magnolia Petroleum Co.
†Magnolia Petroleum Co., Humble Oil & Refining Co., Crown Central Pipe Line Co.
‡Thrall prices same as North Central Texas less 19½ cents per cwt. freight.
§Humble Oil & Refining Co.

EASTERN STATES

Joseph Seep Purchasing Agency
(Effective August 16, 1929)

Penna Grade Oil in New York Transit Lines (New York)	$3.30
Bradford District Oil in National Transit Lines (Pennsylvania)	3.30
Penna Grade Oil in National Transit Lines (Pennsylvania)	3.30
Penna Crude Oil in Southwest Pennsylvania Lines (West Virginia)	3.25
Penna Grade Oil in Eureka Pipe Line Lines (Pennsylvania)	3.15
Penna Grade Oil in Buckeye Pipe Line Lines (Ohio)	2.90
Cabell Grade Oil in Eureka Pipe Line Lines (West Virginia) (May 22, 1929)	1.75
Corning 35-cent Grade Oil in Buckeye Pipe Line Co.'s Line (May 22, 1929).	1.80
Corning 25-cent Grade Oil in Buckeye Pipe Line Co.'s Lines (May 22, 1929).	1.90
Somerset Oil in Cumberland Pipe Line Lines (Kentucky) (May 22, 1929) ...	1.80
Ragland Grade Oil in Cumberland Pipe Line Lines (Kentucky) (Jan. 29) ...	.60

MIDDLE WESTERN STATES

Ohio Oil Co.
(Effective May 21, 1929)

Lima	$1.80
Wooster	1.90
Illinois	1.75
Indiana	1.57
Princeton	1.75
Plymouth	1.28
Waterloo (November 17, 1926)	1.35
Western Kentucky	1.82
Dundee, Mich. (June 26, 1929)‖	1.25
Upper and Lower Traverse sands, Mich.‖ ....Same as Mid-Continent gravity scale	
Midland, Mich. (June 3, 1929)*	1.70
Saginaw, Mich., Saginaw Sand (February 10)†	1.89
Saginaw, Mich., Berea Sand (February 10)†	1.79
Cumberland, Clay, Barren, Clinton and Monroe Counties, Kentucky, (March 15)‡	1.50
Oil in line in Stoll Oil Refining Co. in Oil City, Ky. (June 1, 1929)§	1.80
Oil Springs (Canada)¶	2.27
Petrolia (Canada)¶	2.20

*Poted by Pure Oil Co.
†Posted by Sun Oil Co.
‡Posted by Paragon Development Co.
§Posted by Stoll Oil Refining Co.
¶Posted by Imperial Oil Co., Ltd.
‖Posted by Standard of Indiana for boat shipment.

MEXICAN CRUDE

Panuco (May)*	$ .644

*Based on July transactions. Price exclusive of taxes.

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Oil Earnings for Year Show Big Rise

Net Profits of 58 Leading Companies in 1928 $669,900,000 as Compared With $357,600,000 in 1927. Petroleum Securities Advance

Fifty-eight of the leading petroleum companies in 1928 showed net profits of $669,900,000, indicating earnings of 9 per cent on invested capital of $7,486,400,000, as compared with a net of $357,600,000 or 5.1 per cent on invested capital in 1927, according to the annual earnings bulletin of the Standard Statistics Co.

Upturn in Securities

The oil shares, which had been neglected for months owing to conditions in the industry brought about by overproduction of crude, leaped into the forefront of trading on the New York Stock Exchange in the last week. The Standard group received special attention, led by Standard of New Jersey, which reached a new high. Gulf of Pennsylvania was popular among the independents, and it too touched a new peak.

Explaining in part the active trading in Gulf was an unconfirmed rumor to the effect that this company was to be the nucleus of a huge oil investment trust. The rumor linked J. P. Morgan & Co. with the projected trust, which it was said would be along the lines of the United Corp. in public utilities and the Alleghany Corp. in railroads, both sponsored by Morgan interests.

Another rumor, that a merger between Standard of New Jersey and Standard of California was pending, was characterized as without foundation by both companies.

Standard of Rhode Island an Enigma

Standard Oil Co. of Rhode Island, which received a charter at Providence on August 13, has proved an enigma. Francis I. McCann of Providence, local counsel for the Rockefeller group, on August 15 asked Secretary of State Ernest L. Sprague of Rhode Island to transmit a protest to the incorporators of Standard Oil Co. of Rhode Island, but this request was refused. Secretary Sprague said the Standard Oil of Rhode Island has a legal right to the name. The only direct "lead" to sponsorship of the Rhode Island company has been the statement by Walter Adler, Providence attorney who filed the charter, that he was acting for "New York interests."

Prairie Dividends Resumed

After a lapse of two years, dividend payments on the common stock of the Prairie Oil & Gas Co. of Independence, Kans., have been resumed. Directors placed the stock on a $2 annual basis by declaration of a quarterly dividend of 50 cents. In addition, an extra cash dividend of 25 cents was declared. Both are payable September 30 to stock of record August 31. The last previous dividend was quarterly payment of 50 cents, paid August 31, 1927.

Petroleum Corp. of America

The Petroleum Corp. of America issued its first financial statement showing net cash income of $1,384,163 for the period from the date of its organization January 21 to June 3. These earnings, derived from dividends and interest, do not include appreciation of $2,161,885 on the corporation's holdings.

Shell Union Oil

The Shell Union Oil Co. declared the regular quarterly dividend of 35 cents a share on the common stock of an initial quarterly of $1.37½ on the new 5½ per cent preferred stock.

Texas Cities Gas

Gross income of Texas Cities Gas Co. for the 12 months ended April 30 last was $2,153,970, an increase of 15.3 per cent over the previous 12-month period. Net earnings before interest on the company's first mortgage 5 per cent gold bonds amounted to $738,384, an increase of 28.8 per cent. This company is controlled by Union Utilities, Inc., which reported an increase for the period of 11.7 per cent in gross income, resulting in an increase of 64.3 per cent in net available for interest on its 5.50 per cent convertible gold debentures and 198.7 per cent balance available for prepared stock dividends.

Rio Grande Oil

The Rio Grande Oil Co. reports for the six months ended on June 30 net earnings, after all charges, including federal taxes, of $3,022,362, equivalent to $2.48 a share on the outstanding stock. Earnings for the three months ended on June 30 were reported as $1,263,324, after charges, equivalent to $1.05 a share on the outstanding stock, against net earnings of $1,759,037, equivalent to $1.43 a share on the outstanding stock, in the previous three months.

Bolsa Chica Oil

The regular quarterly dividend of 2 per cent a share on the Class "A" stock of the Bolsa Chica Oil Corp. was voted at a special meeting of the directors. This dividend, which is at the rate of 8 per cent per year, will be paid September 15 to stockholders of record at the close of business August 31 when the transfer books will be closed for 10 days.

The Texas Corporation

The Texas Corporation declared a regular quarterly dividend of 75 cents, payable October 1 to stock of record September 6.

Houston Gulf Gas

Consolidated gross revenues of $3,531,989 are reported for the first six months of 1929 by the Houston Gulf Gas Co. and subsidiaries, a gain of 7½ per cent over the same period last year. Net earnings, after all prior charges of subsidiaries but before reserves, were $1,591,902, equivalent to more than 4.8 times interest requirements on the first mortgage bonds for the period. The company, a subsidiary of United Gas Co., also declared a quarterly dividend of $1.75 a share on its preferred stock, payable September 1 to stockholders of record August 15.

Dixie Gas & Utilities

The Dixie Gas & Utilities Co. and subsidiaries report for the 12 months ended June 30 gross earnings of $2,014,320 and profit after ordinary taxes and charges of $638,767 available for reserves, federal taxes and dividends. In June the gross revenue was $130,574 and the profit was $35,039.

Atlantic Refining Co.

Net profit of $8,862,409 for the first six months of the year was reported by the Atlantic Refining Co. and its subsidiary companies. The net earnings are at the rate of $3.32 on the 2,666,634 common shares outstanding at the end of that period.

The surplus of the Atlantic Refining Co. after common and preferred dividend during the half year amounted to $58,585,045. The total assets of the company on June 30 were $163,374,538.

Amerada Gets $5,000,000

Payment of $5,000,000 has been received by the Amerada Petroleum Corp., representing the initial cash consideration due under the recently signed contract for the sale to the Standard Oil Co. of Indiana, through its subsidiary, the Dixie Oil Co., of an undivided half interest in that part of the Oklahoma and Kansas leasehold of the Amerada corporation upon which production had not been developed up to July 3.

Missouri-Kansas Pipe Line

The Missouri-Kansas Pipe Line Co.'s balance sheet of June 30, made public by Frank P. Parish, president, shows a current position of better than five to one. The company's cash totals $1,077,000 and assets have increased more than $2,000,000 since December 31, 1928.

Sinclair Consolidated Oil

Sinclair Consolidated Oil Corp. declared usual extra dividend of 25 cents and regular quarterly dividend of 50 cents on common, both payable October 15 to stock of record September 14. For the six months ended on June 30 the corporation and its subsidiaries report gross earnings, including miscellaneous income, of $90,957,374, as compared with $81,698,861 in the same period last year. After expenses, ordinary taxes, interest and other charges the profit available for federal taxes and reserves was $16,449,250, against $9,542,955 in the first half of 1928.

Twenty Representative Stocks

The Oil and Gas Journal's weekly average price of 20 representative petroleum stocks listed on the New York Stock Exchange and New York Curb, based on closing quotations for Saturday, was as follows:

March 9	55.96	June 1	56.45
March 16	58.63	June 8	58.37
March 23	58.52	June 14	57.76
March 30	58.57	June 21	56.76
April 6	58.26	June 28	56.70
April 13	58.52	July 5	56.52
April 20	58.46	July 12	55.69
April 27	58.34	July 19	56.83
May 4	58.14	July 26	55.62
May 11	59.75	Aug. 3	55.09
May 18	59.30	Aug. 10	54.15
May 25	57.73	Aug. 17	60.32

Mexican Seaboard Oil

For the quarter ended June 30 the Mexican Seaboard Oil Co. and domestic subsidiaries report a net loss of $11,456 after interest, drilling expenses and other charges, but before depletion, as compared with a profit of $25,945 in the preceding quarter and a loss of $100,123 in the June quarter last year. Profit for the first six months of 1929 was $14,489.

INDEPENDENT OILS ON NEW YORK CURB

Compiled by Francis, Bro. & Co., Kennedy Building, Tulsa, Okla.

1926 High	1926 Low	1927 High	1927 Low	1928 High	1928 Low	1929 High	1929 Low	Par value	Stocks	Week ended August 16: Sales	Open	High	Low	Last	Change
$6.75	.45	2 7/8	.55	1½	.53	.72	⅜	$5	Amer. Con. Oilfields	10,400	⅜	½	5/16	⅜	...
..	..	7½	2¾	9½	3⅛	8⅝	3½	N.P.	Amer. Maracaibo	5,400	3⅞	4	3½	4	+ ⅛
..	..	2¾	1	4½	2¼	5	1⅞	$10	Argo Oil	1,000	2	2	1⅞	1⅞	...
85¼	60	40	20½	55	32¾	62	45	N.P.	British American	No sales.					
28⅜	9¼	28¼	15½	4½	3⅞	4⅞	2⅝	25c	Carib. Syndicate (new)	2,000	3½	3¾	3¼	3⅜	+ ½
..	..	58¾	40¼	90⅞	54	47	28⅛	$20	Cities Service	42,500	47½	48	47½	48	+ ¼
..	..	95⅝	87	103½	94½	98¾	93½	100	Cities Service, pfd.	200	94	94⅛	94	94⅛	+ ⅛
..	..	8⅞	7⅝	9⅝	8⅞	9¼	9	10	Cities Service, pfd. B	100	9⅛	9⅛	9⅛	9⅛	+ ⅛
3½	1¾	3⅞	1⅛	3¼	.76	2	⅞	1	Colombia Syndicate	800	1	1	⅞	⅞	— ¼
..	..	9¾	6⅜	8⅞	6¼	11⅛	6⅞	10	Consolidated Royalty	600	5½	6¼	5⅜	6¼	+ ¼
16	10	14⅞	9½	17½	9½	11¾	7⅞	N.P.	Creole Syndicate	2,600	8⅜	9¾	8¼	9⅝	+ ⅛
..	..	3	.50	3¼	.76	2½	1⅛	N.P.	Crown Central	1,700	1⅜	2	1⅜	2	+ ⅝
7⅞	6¾	12	4	33½	3¼	26	14	N.P.	Darby Petroleum	8,000	13	13¼	12	13	+ ½
..	..	2½	74	2¼	1	11	2	N.P.	Derby Oil & Ref.	2,900	7¼	8⅞	6⅝	8	+ ½
..	..	16¾	4	21⅛	7½	44	20⅞	N.P.	Derby Oil & Ref., pfd.	No sales.					
..	..	2	.40	.53	.15	..	..	N.P.	Gilliland ctfs.	No sales.					
98	92	118	86¼	165	101⅛	202⅞	142⅛	$25	Gulf Oil Corp.	13,100	185⅜	201	185	201	+15
$3.00	.83	2½	.80	3⅜	1	2⅞	1¼	5	Intercontinental Pet.	3,200	1¼	1¼	1⅛	1⅛	...
..	..	2¼	1⅛	3	1¼	3⅝	1⅝	N.P.	Kirby Petroleum	800	2	2⅛	2	2⅛	— ⅛
12¼	5¾	10⅞	5⅛	9⅝	5⅛	6⅛	2⅞	25	Leonard Oil & Dev.	1,400	4	4½	3⅝	4	+ ⅞
27	20	27½	20	43⅞	20	38⅞	23⅛	N.P.	Lion Oil & Ref. Co.	800	27⅝	35	27⅝	34½	+ 4¼
46	30	59⅝	37	69⅛	48½	40	32¼	$25	Lone Star Gas	5,600	42¾	43⅜	41½	42	+ 1
2⅞	1	2⅞	.80	1⅞	.50	1¼	⅜	1	Magdalena Syndicate	200	⅜	⅜	⅜	⅜	...
34	12½	52	12	48½	32	38½	20	N.P.	Margay Oil	No sales.					
8	5½	12⅛	5	8	2¾	6⅞	3⅜	N.P.	Mexico-Ohio Oil	No sales.					
1¾	1⅛	1½	1	1¾	.76	1½	⅞	$1	Mountain & Gulf	400	1	1	⅞	⅞	— ⅛
26	23	29¼	22¾	28⅞	19½	22⅞	12	10	Mountain Producers	3,000	11⅛	12½	11⅛	12	+ ¾
6⅝	5	5⅞	4⅝	5⅝	4¼	5	3⅜	5	New Bradford	700	3¼	3¼	3	3	...
..	..	16	9¼	11⅞	7⅛	9⅜	5½	1	New Mex. & Ariz.	100	6	6	6	6	...
..	..	12¾	9½	14¼	8½	11⅞	8¾	N.P.	North Central Texas	3,300	16⅛	16⅜	15½	16	— ¼
10⅛	5⅞	9⅜	3¼	6	2⅛	3½	1⅜	N.P.	Pandem	1,300	1⅜	1⅜	1⅛	1⅛	...
12¼	11⅜	12⅛	7	15⅝	8½	10¼	5⅞	N.P.	Pantepec Oil	2,500	5⅞	5⅞	5½	5½	— ⅜
22¾	12	13½	5⅛	7¾	4⅞	7⅜	4⅜	N.P.	Pennok Oil	No sales.					
17	8½	24⅜	7	18	4⅞	16	11½	25	Red Bank Oil	400	10¾	10¾	10½	10½	— ½
30¼	12	15½	3½	12⅞	4⅛	8½	4½	N.P.	Reiter-Foster	900	4⅞	5⅜	4⅞	5⅜	+ ⅜
7	4½	7	4½	12	4⅛	11	6	N.P.	Ryan Consolidated	1,200	5⅝	6	5	5	— ¾
10	7⅛	8	5¼	7¼	5½	5⅞	2⅜	$10	Salt Creek Cons.	1,100	2½	2⅝	2	2¼	— ⅛
35	24½	35½	27½	35	23⅛	25⅞	14⅝	10	Salt Creek Prod.	5,300	13¼	14½	13	14½	+ 1¼
6⅞	1¾	7	1¾	3½	1	2½	1⅛	5	Savoy Oil	200	½	½	½	½	...
92	63½	92	63½	93¼	75	145	82	100	Transcontinental, pfd.	700	145	155	145	153	+ 6⅞
8	4½	7⅜	4¼	9⅛	4⅜	6½	3½	5	Venezuelan Petrol	1,400	3	4¼	3	3¼	...
8⅛	5½	8	4⅜	8¼	4⅞	9⅛	4⅛	$1	Woodley Petroleum	100	4½	4½	4½	4½	+ ¼
6½	6	6	1¾	8⅜	2⅛	..	..	25	Y Oil & Gas (new)	No sales.					

TRANSACTIONS IN OIL SHARES ON NEW YORK STOCK EXCHANGE

Quotations Compiled by Francis, Bro. & Co., Members of New York Stock Exchange, Kennedy Building, Tulsa, Okla

1926 High	1926 Low	1927 High	1927 Low	1928 High	1928 Low	1929 High	1929 Low		Listed capital	Par value	Div. rate	Last paid	Stocks—	Sales	Week Open	ended High	August 17 Low	Last	Change
32⅞	24¼	37⅝	27⅝	43⅞	27½	42⅝	22½	(sh)	922,075	N.P.	50cQ	Oct. 31, 28	Amerada Corp.	14,500	26	30¼	26	30	+ 4⅛
74	39⅞	82⅛	35⅛	85	51⅛	64⅜	43⅛	(sh)	209,180	N.P.	.....	.....	American Republics Corp.	11,300	34½	42⅝	34½	41⅜	+ 9¼
60	44⅜	50¼	35	53⅜	37½	47¼	40½		$57,260,300	$25	50cQ	Dec. 31, 28	Associated Oil	17,000	44	44¼	44	44¼	+ ¼
128⅜	97	131⅜	104	66⅜	50	77⅞	53½		50.000,000	25	25cQ	Dec. 15, 28	Atlantic Refining	1,940	63⅞	71½	63⅛	70⅞	+ 8¼
33½	23½	35½	20¾	53	20	49⅛	38⅛		35,194,000	25	50cQ	Feb. 5, 29	Barnsdall Corp.	89,200	34	41⅛	34	41¼	+ 7
94½	50	96⅜	65	94⅞	68	90⅞	61		20,785,400	100	.....	.....	General Asphalt	65,900	86½	94¼	86½	94	+ 7
72	50¼	175¾	60⅛	167	79	109	70½		25,000,000	100	.....	.....	Houston Oil	18,500	69⅛	82⅛	69⅛	82½	+12¾
34	19⅝	32¾	17⅝	38⅜	21¾	39⅜	30	(sh)	959,457	N.P.	50cQ	Jan. 31, 29	Independent Oil & Gas ...	41,800	29½	34½	29⅜	34	+ 4⅝
12¾	7½	12⅛	7⅝	39⅝	9	52⅝	29		8,203,080	$10	.....	May 31, 24	Indian Refining	207,500	42⅜	53	42	51⅝	+ 9¾
25⅞	16½	37¾	20½	39⅛	27⅜	38⅜	26	(sh)	3,992,122	N.P.	.....	May 1, 27	Lago Oil & Transport ...	6,000	30¼	34⅞	30¼	34	+ 4½
19⅞	12	18⅛	10	19¾	9⅜	18	11¾	(sh)	1,237.078	N.P.	.....	.....	Louisiana Oil Refining ..	32,200	10⅝	13½	10⅝	13⅛	+ 2⅝
28	16½	22¾	12	25½	12½	18½	12	(sh)	330,000	N.P.	.....	.....	Maracaibo Oil	3,600	15	16½	14⅝	16⅛	+ 1¼
63⅜	49¼	58½	31	49¾	33	47⅛	33⅝	(sh)	2,316,692	N.P.	.....	Mar. 31, 27	Marland Oil Co.						
13¾	6	9¼	3	73	4⅝	69⅜	36¼	(sh)	945.939	N.P.	.....	Dec. 15, 20	Mexican Seaboard	69,500	35	41¾	35	40⅞	+ 5⅞
37	20½	39⅝	25½	44½	25½	39⅞	30½	(sh)	1,357,461	N.P.	50cQ	Feb. 15, 29	Mid-Continent Petroleum	78,300	31½	36⅜	31½	36	+ 5
104½	90	105	97	120½	103¼	121	120¼		$6,718.000	$100	$1.75Q	Sept. 1, 28	Mid-Continent Pet. pfd. ..	No sales.					
2½	½	3¾	1⅝	7⅜	2⅜	5⅛	3½		24.298,850	10	.....	July 1, 23	Middle States	23,700	3¼	3¼	2⅞	2⅞	— ¼
76½	56⅛	65⅞	40⅛	54⅞	38¼	63	40¼		48,807,400	$50	.....	Oct. 20, 27	Pan American P. & T. ...	19,000	60⅜	65¾	60⅜	65¾	+ 7¼
78⅜	56⅞	66⅜	40¼	58⅞	37¾	66⅜	40½		121,097.900	50	.....	Nov. 15, 24	Pan American P. & T. B.	186.600	59	66	59	65⅝	+ 6⅜
46	30	37⅞	16⅜	28⅜	15½	17½	13¾	(sh)	400,000	N.P.	.....	Jan. 30, 27	Pan American Western B	18,000	13¾	15	13¾	15	+ 1¼
32	4½	18⅞	8	21¾	11½	15¼	9	(sh)	198,770	N.P.	.....	.....	Panhandle P. & R.	2,200	7⅞	10¾	7⅞	10¾	+ 3⅝
99⅜	51	83	54	108	70	76	47½		$2.935.200	$100	.....	July 2, 23	Panhandle P. & R. pfd. ..	300	55	59	55	59	+ 4
57⅜	40	60¼	36¼	53⅞	35¼	47	35⅛	(sh)	2.406,796	N.P.	37½cQ	Jan. 2, 29	Phillips Petroleum	37,200	36⅝	40⅞	35¼	40½	+ 5⅜
....	....	1⅛	½	5¼	½	3⅜	2		$29,622.925	$25	.....	.....	Pierce Oil Corp.	9,300	1⅝	2¼	1⅝	2⅛	+ ½
7	2¼	5½	2½	7	3½	5⅞	4	(sh)	2.500.000	N.P.	.....	.....	Pierce Petroleum	12,200	4½	5½	4⅜	5⅜	+ ⅜
60¼	48	55½	45⅝	68	46	65⅝	53¼		60,000.000	25	.....	Aug. 31, 27	Prairie Oil & Gas	17,900	51	59½	50⅜	59⅜	+ 9¼
137½	122½	190	130¾	280	172	61⅞	53⅝		$101,250,000	$25	75cQ*	Mar. 31, 29	Prairie Pipe	30,200	59¾	64	59⅝	63⅛	+ 3⅛
20¾	11	33⅞	16¾	29⅞	16	25⅞	17		$37,450,850	$50	.....	Sept. 15, 23	Producers & Refiners	4,900	13½	17	13½	17	+ 3
41¾	30¾	50	36⅞	49⅝	41	46¾	38¼		2.845.350	50	.....	May 1, 25	Producers & Refiners pfd.	11,000	36	38½	36	38	+ 2
31	25¼	33½	25	31⅝	19	30¾	23¼		75,959.350	25	25cQ	Dec. 1, 28	Pure Oil Co.	37,200	24½	28	24½	27⅞	+ 3¼
27½	22	28⅝	25⅜	56	23	49⅝	39¾		47,025,000	$25	50cQ*	Nov. 15, 28	Richfield Oil	33,300	39¼	44¾	38⅞	44¼	+ 4⅝
57⅜	47⅜	54½	44¼	64	44⅝	55¾	49⅞	(sh)	611,303	13.40	50cQ	Jan. 10, 29	Royal Dutch, N. Y., sh. ..	6,900	51	53⅝	50¾	53	— 5⅝
48⅝	40½	47⅞	41⅜	57½	40⅝	55⅜	43⅞	(sh)	£30,000,000	£1	$1.45	July 23, 28	Shell Transport & T.	No sales.					
31	24	31¾	24⅝	39¼	23¼	31¾	25¾	(sh)	20.000.000	N.P.	35cQ	Dec. 31, 28	Shell Union Oil	51,600	25¼	29	25¼	29	+ 3½
25⅝	15⅛	26⅜	14¼	27¼	18⅛	39⅜	18⅛		$8.357.000	$10	10cQ	Dec. 15, 28	Simms Petroleum	91,000	33⅞	40⅛	33⅞	40	+ 6¾
24⅞	16¾	22⅜	15	46¾	17⅜	45	35⅛	(sh)	4.501.915	N.P.	.....	.....	Sinclair Consolidated	284,700	32⅞	39½	32¼	39	+ 6½
99½	90	104½	97	110	102½	111	107		$16,604,600	$100	$2Q	Nov. 15, 28	Sinclair Consolidated pfd.	300	109	109¼	109	109¼	— ¾
37⅛	26⅝	37⅜	24⅛	42⅝	25	46½	32⅞		27.396.590	25	50cQ	Dec. 15, 28	Skelly Oil Co.	94.800	40	45⅜	40	45	+ 5
63⅝	51½	60¾	50⅜	80	53	81⅞	64	(sh)	12,594,098	N.P.	65½cQ	Dec. 15, 28	Standard Oil of Cal.	62.900	70⅞	79⅜	70⅜	77¾	+ 7¾
46⅜	37½	41⅜	35⅛	59⅜	37¾	62⅜	48		$611.120.700	$25	25cQ*	Dec. 15, 28	Standard Oil of N. J. ...	673.500	57	73⅜	57	70⅞	+14⅛
47¼	30⅜	34⅛	29¾	44¼	28¾	45¾	38		427.973.275	25	40cQ	Dec. 15, 28	Standard Oil of N. Y.	2.309	37¾	43½	37¾	42⅝	+ 5
41¾	30⅛	34⅞	30	77	31½	76⅜	57	(sh)	1,206.073	N.P.	25cQ	Dec. 15, 28	Sun Oil	4.400	70½	74⅜	70⅛	74⅜	+ 3½
5¼	1	6½	3⅛	14¼	2½	12	7	(sh)	1.267.000	N.P.	.....	Dec. 20, 20	Superior Oil Corp.	66,000	6¼	7¾	6¼	7⅝	+1½
58	48	58	45	74¾	50	68½	57¼		$211.076.650	$25	75cQ	Jan. 1, 29	The Texas Corporation ..	101.600	60¼	66¾	60	65¾	+ 5¾
19½	12	18⅞	12	26⅝	12⅛	23⅞	16		8.380.340	10	.....	Jan. 3, 28	Texas Pacific Coal & Oil .	35,900	16⅝	19½	16⅝	19½	+ 3
39¼	27	29⅛	19	41½	19⅝	40	27⅛	(sh)	2.168,410	N.P.	20cQ	Dec. 15, 28	Tide Water Oil Co.	1,400	33¼	37	33¼	37	+ 4¾
103	87¼	90⅛	85	100⅛	86	97½	90⅛		$20.705.200	$100	65½cQ	Dec. 15, 28	Tide Wat. O. Co. 5% pfd.	600	90⅞	92¼	90⅜	92¼	+ 1⅜
27	20⅞	19⅜	15¾	25	14⅜	23½	17½	(sh)	4.796.158	N.P.	.....	Aug. 1, 27	Tide Water Associated ...	153,100	18⅜	22	18	22	+ 4⅛
5½	3	10⅜	3¾	14¾	7¼	14¼	9	(sh)	3,742,029	N.P.	.....	.....	Transcontinental Oil	530.800	11⅜	13⅞	11⅛	13⅞	+ 2⅝
58⅜	37¼	56½	39⅝	58	42⅜	54½	46		$94.798.100	$25	50cQ	Nov. 10, 28	Union Oil of California ..	28,800	46	52⅞	46	52¼	+ 6½
120⅜	84¼	127½	94	128⅛	110	150¼	121⅞		31,061.200	100	$1.25Q	Dec. 1, 28	Union Tank Car Co.	900	150	157⅜	150	157	+ 7
30⅛	23½	34½	24½	44⅞	26	42⅞	28½	(sh)	356.000	N.P.	50cQ	Jan. 2, 29	Warner Quinlan	19,100	29⅝	34½	29⅝	34½	+ 4⅞
29¾	25⅛	27½	20	38	20⅛	38	30¼	(sh)	490,000	N.P.	50cQ	Jan. 20, 29	White Eagle Oil & Refg. .	7,200	32⅜	35¼	32⅜	35	+ 2½
....	....	....	....	....	....	29¾	18⅛		.....	....	.....	.....	Wilcox Oil & Gas	2,800	18⅝	20⅝	18⅝	20⅜	+ 1¾

*Also extras. †Ex-dividend.

STANDARD OIL STOCKS ON NEW YORK CURB

21	16	21⅝	17⅞	22⅜	14⅞	18¾	14		£4,126.460	£1	.....	June 6, 28	Anglo-American Oil	2,300	14⅝	15	14⅝	15	+ 2
....	....	3¾	¾	5	1¼	2½	1⅛	(sh)	500.000	N.P.	.....	.....	Atlantic Lobos	900	1⅛	1½	1⅛	1½	...
76	65	69	50	56½	44½	46½	35		1.000.000	25	$1S.A.	Oct. 15, 28	Borne Scrymser	350	28¼	31¾	28¼	30	+ 1¾
59½	42	60	45	76	53	74¼	65¼		10.000.000	50	$1Q	Dec. 15, 28	Buckeye Pipe Line	100	68⅞	68⅞	68⅞	68⅞	— ⅛
82½	65	126	76½	161	117	193⅜	140⅛		3.000.000	25½	$1Q	Dec. 28, 28	Chesebrough Mfg.	100	184¾	184¾	184¾	184¾	...
25⅞	17½	22⅝	16¼	23	16	29	17¼		36,057.840	10	.....	Dec. 15, 27	Continental Oil	9,900	17½	21⅞	16⅞	21½	+ 4⅜
137	102	137	89	114	67	75¾	60		1.500.000	50	$1A	Dec. 15, 28	Cumberland Pipe Line ...	No sales.					
63¾	43	68½	47	88	64⅛	70⅛	59⅛		5,000.000	100	$1Q	Nov. 1, 28	Eureka Pipe Line	100	55½	55½	55½	55½	— 3½
32½	9⅞	13½	3½	13	4¼	6⅝	5⅞		16.000.000	100	.....	June 30, 25	Galena Signal Oil	100	5⅛	5⅛	5⅛	5⅛	...
68½	52	68½	54	114¾	59¼	126⅞	89⅝		73,117.577	25	30cQ*	Jan. 1, 29	Humble Oil & Refining ...	19,600	116	124¾	116	124¾	+ 8¼
144½	125½	182	123¾	290½	176½	340½	290		20.000	100	10%S.A.	Dec. 15, 28	Illinois Pipe Line	450	307	307	305¾	306	+ 5¾
....	....	64¾	37¾	104	56¾	30⅜	26⅝	(sh)	6.458.267	N.P.	25cQ	Dec. 1, 28	Imperial of Canada	10,000	28¾	32¼	28½	32¼	+ 3½
72½	58	94½	61	91⅞	74⅜	28⅜	26¾		$5.000.000	$50	.....	Feb. 15, 29	Indiana Pipe Line (new).	400	27½	28¾	27½	28¾	+ ¾
35½	28¾	39	28¼	55	35	30⅜	22½	(sh)	7.123.144	N.P.	37½c	Nov. 30, 28	International Pet. (new) .	17,900	24	28⅛	24	27⅞	+ 3⅞
20¾	12½	24	13½	32⅜	19⅜	25⅞	21⅜		$6.363.350	12.50	25c	Dec. 15, 28	National Transit Co.	800	22	22½	22	22½	+ ¼
51½	27¼	44½	31¼	75	38½	85	70		5,000.000	100	.....	July 15, 26	New York Transit	No sales.					
80½	64	100	70	69	56½	63	52¾		2.000.000	50	$3S.A.	Jan. 2, 29	Northern Pipe Line	No sales.					
67¾	55¾	67⅞	52	84	58½	75⅝	64½		60.000.000	25	50cQ*	Dec. 15, 28	Ohio Oil Co.	4,700	..	75¼	66¾	75¼	+ 5¾
24¾	15	39	12	84	28	44½	23⅛		10.000.000	25	$1.25	Dec. 15, 28	Penn Mex. Fuel	400	31½	34	31½	34	+ 1
220	84½	201½	175½	220	167	219½	200		4,000,000	100	$5S.A.	Dec. 20, 28	Solar Refining (old)	100	37⅞	37⅞	37⅞	37⅞	...
....	....	....	....	....	....	50	37¾		.....	....	.....	.....	Solar Refining (new)						
74½	61½	27¼	15½	19	15	22½	13		1.000.000	10	$2	Dec. 1, 27	Southern Pipe Line	200	21⅜	21⅜	21	21	— ¼
50	34½	41½	35	71⅞	36¾	69⅞	62		2,000,000	25	50cQ	Dec. 31, 28	South Penn Oil (old)	1,700	48	52	47⅞	51⅞	+ 5⅝
....	....	....	....	....	....	60¼	40⅜		.....	....	.....	.....	South Penn Oil (new) ...						
56	47½	83	55½	102	70	70	62¾		3.500.000	100	$1Q	Oct. 1, 28	Southwest Pa. Pipe Lines.	No sales.					
70½	60½	81½	64⅝	95⅞	70⅞	63	54		228.415.463	25	61½Q	Dec. 15, 28	Standard Oil of Indiana ..	110,400	52	57½	52	57½	+ 5¾
36½	16½	20⅞	14⅝	37¾	15	22⅛	18		8.000.000	25	.....	June 16, 24	Standard Oil of Kansas ..	9,300	21⅝	26	21⅝	25½	+ 3½
134⅜	108	130	111½	179¾	122¼	45¼	35⅛		17.012.559	10	$1Q	Dec. 31, 28	Standard Oil of Kentucky.	13,000	35⅞	38⅜	35⅞	38	+ 2⅛
51⅛	42	49½	40	54⅞	39⅞	50¼	45½		4.559.850	25	63cQ	Dec. 20, 28	Standard Oil of Nebraska.	300	49⅜	49⅜	48⅞	48⅞	— ⅝
372	288	87½	72	134	71	129	110¼		14,000.000	25	62½cQ	Jan. 2, 29	Standard Oil of Ohio	300	118	118	117	117½	+ ½
21	15	21	14½	23½	16	18	15		861.000	25	.....	Nov . 1, 19	Swan Finch Co.	100	16	16	16	16	...
109⅜	90¼	....	....	111	72	133¾	105½		125,619.000	25	75cQ	Dec. 20, 28	Vacuum Oil Co.	5,500	116	121½	116	121½	+ 5½

*Also extras.

before depletion, against a loss of $527,377 in the first half of 1928. Cia. International de Petroleo y Oleoductos, S.A., pipe line subsidiary of the Mexican Seaboard Co., reports for the June quarter a net loss of $1,694 after expenses and amortization, as compared with a net loss of $14,975 in the first quarter and a net loss of $22,756 in the second quarter last year.

South Penn Oil

Statement for six months ended June 30, 1929, follows: Gross, $9,501,099; operating expenses, $6,658,392; profit, $2,842,707; dividends, $200,000; surplus, $2,642,707.

United Gas

United Gas Co. and controlled companies reported consolidated gross revenues for the six months ended June 30, 1929, of $6,484,749 and consolidated gross earnings of $4,103,896. Balance available for federal taxes, depreciation and depletion was $1,299,711, after deducting all prior charges and minority common stock interest of controlled companies, and United Gas Co. preferred

(Continued on Page 152)

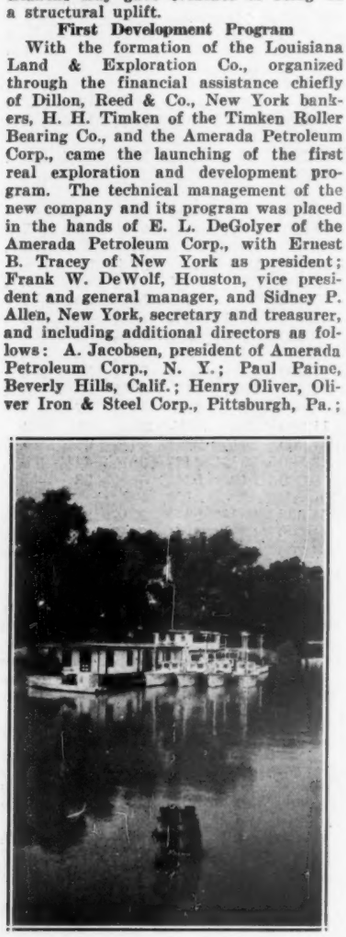
REMARKABLE SUCCESS SHOWN IN EXPLORATION

(Continued from Page 40)

Mallard Bay, 3,512 feet; No. 1 Vermilion Bay, 3,214 feet; No. 1 West Cote Blanche Bay, 2,632 feet, and No. 1 Grand Lake, 4,863 feet. Only the test in Cote Blanche Bay gave evidence of being on a structural uplift.

First Development Program

With the formation of the Louisiana Land & Exploration Co., organized through the financial assistance chiefly of Dillon, Reed & Co., New York bankers, H. H. Timken of the Timken Roller Bearing Co., and the Amerada Petroleum Corp., came the launching of the first real exploration and development program. The technical management of the new company and its program was placed in the hands of E. L. DeGolyer of the Amerada Petroleum Corp., with Ernest B. Tracey of New York as president; Frank W. DeWolf, Houston, vice president and general manager, and Sidney P. Allen, New York, secretary and treasurer, and including additional directors as follows: A. Jacobsen, president of Amerada Petroleum Corp., N. Y.; Paul Paine, Beverly Hills, Calif.; Henry Oliver, Oliver Iron & Steel Corp., Pittsburgh, Pa.;



Fleet of shooting crew boats used in geophysical exploration of Louisiana Land & Exploration Co.'s holdings.

Robert M. Youngs of A. Iselin & Co., N. Y.; Holland S. Reavis, N. Y.; Boykin C. Wright of Cotton & Franklin, N. Y., and Elton Parks of Dominick & Dominick, N. Y.

With this organization, a contract was entered into with the Geophysical Research Corp. of New York under the technical direction of Dr. J. C. Karcher, to explore by geophone (seismograph) all the leases and fee lands of the company within an agreed time. The first party, under Carol G. Rosaire, began work in August, 1927, in Sabine Lake where no salt domes were found.

The next exploration, in Calcasieu Lake, resulted in the finding a dome in its southern portion about 3 miles from the east shore, and demonstrated that a liberal portion of the East Hackberry Dome (already producing oil) extended into the lake, and was embraced in the company's holdings.

These discoveries encouraged the company in its exploration program, and a second shooting party was added, under the direction of O. C. Lester, and the work proceeded eastward to include all of the large lakes and bays held under lease from the state. A. L. Smith was party chief for a time also. Another salt dome was found in Vermilion Bay about 3 miles southwest of Cypremont Point, but the other state leases apparently did not embrace any domes, and they were allowed to lapse.

Two Adjacent Domes

As the shooting of Terrebonne Bay progressed it became evident that two domes were in existence under immediately adjoining lands and water. About this time the state offered for bids a number of large lease units embracing the shore zone off southern Louisiana, and a large number of lakes, bays, bayous and sounds. The company participated in the bidding and obtained the lease for Lake Pelto, and a portion of Timbalier Bay, as well as the enormous body of water bottoms (approximately 800,000 acres) embraced within Chandeleur Sound and the adjoining littoral zone.

Further shooting of the fee lands revealed the presence of several salt domes which were partly traversed by navigable streams, or in part were overlain by lakes and bayous to which the state might claim ownership. The state was requested to offer for bids a large number of township units, and the company was successful in obtaining new leases giving complete ownership, either through the fee holdings or under state lease on nearly all the domes which it had found. The early shooting revealed seven domes in Terrebonne Parish which were designated as East Bay Junop, Dog, Four Isle, Bay St. Elaine, Lake Pelto, Lake Barre and Caillou Island.

Although all the fee land and leases apparently had been covered under first shooting contract, it later was found that some of the company's fee properties had not been explored entirely and that some of the other oil companies had found a number of domes which eventually would prove to lie in part on the properties of the Louisiana Land & Exploration Co.

Tests Started

Following the discovery of the new domes, tests were started by the new company and were placed in charge of Paul T. Seashore, superintendent. One test, No. 1-A Calcasieu Lake, began drilling in November, 1927, on the south dome in Calcasieu Lake. It was located on an elaborate foundation of piling and was drilled with a gasoline rig to a total depth of 2,975 feet. Evidence of a structural uplift of about 500 feet was found but neither oil nor gas was encountered. The test was found to have been located on the east flank rather than on top the dome as intended.

The first test in Vermillion Bay began drilling in December, 1927, off Cypremort Point. This reached gyp and anhydrite at 790 feet, salt at 796 feet, and was finished in salt at 941 feet. This test closely confirmed the seismograph estimates.

On the east flank of East Hackberry Dome, No. 1-B Calcasieu Lake began drilling in March, 1928, and after obtaining several showings of oil was abandoned in hard lime at 3,263 feet, losing returns.

Additional wells were drilled promptly on each of these three domes with the following results:

No. 2-B Calcasieu Lake (East Hackberry) was drilled between June 4 and August 24, 1928, through several showings of oil to salt at 4,037 feet, and to a total depth of 4,248 feet. A test at 3,771 feet flowed water and a little oil and made some gas.

No. 3-B Calcasieu Lake (East Hackberry) was drilled and tested between September 26 and November 13, 1928, and was finished a producing oil well estimated at 1,500 bbls. daily. This well has produced about 130,000 bbls. and still is flowing approximately 200 bbls. daily. It flowed through a choke until May 18, 1929, when it quit. It resumed flowing May 26 and after being tubed started off again at 1,000 bbls. daily.

No. 2-A, on the South Dome, was drilled between August 10 and September 12, 1928, with a gasoline rig to cap at 1,474 feet, salt at 2,369 feet, and was finished in salt at 2,381 feet. It had no showings but closely confirmed the seismograph findings.

No. 2-A Vermilion Bay was drilled as a southeast flank location 3,700 feet from No. 1, between April 17 and August 14, 1928. It encountered high Miocene formations, found some oil at 2,530 feet, and at 2,750 feet, but encountered an extremely hard sand below this depth, which continued until salt was struck at 3,698 feet and drilled through to 3,749 feet.

No. 3-A Vermilion Bay, 500 feet further off the dome, began drilling October 28, 1928, and later was taken over by The Texas Company and completed in salt at 4,686 feet without finding oil or gas. The lower part of this hole, like the preceding one, encountered hundreds of feet of extremely hard sand rock.

Other tests were drilled on Avery Island Dome, also in Iberia Parish, under a lease hold. The first was drilled to 5,500 feet, and the second to 5,873 feet, without success.

Because of the necessity for prompt development of the company's ten properties and because of the very heavy expenditure which would be entailed, it became evident that a large organization would have to be created for the work and that it would be desirable to close with The Texas Company a contract which had been under discussion and under which the latter company would assume a large portion of the bonded indebtedness of the Louisiana company. The deal was completed extending the Louisiana company 25 per cent royalty and 8⅓ per cent of the net profits on each dome with the Louisiana company agreeing to pay any royalty due under leaseholds. The Texas Company obligated itself to drill four tests each on nine domes and two on the East Hackberry Dome, following which it would continue operations on each dome it wished to retain. The Texas Company also is required to drill four tests on any other salt dome which may be discovered on any part of the properties embraced under the contract, and to have an option to drill two wells each on any structures other than salt domes which may be found.

Following the conclusion of this contract on November 12, 1928, The Texas Company took over the new producing well at East Hackberry, and the drilling of No. 3-A Vermilion Bay on the Vermilion Bay Dome, and proceeded with plans to build up an organization for carrying on the further required development. Because of the size of the undertaking and because that company previously had done very little operating in coastal Louisiana some delay was experienced in completing the organizaton but at this time drilling has actually been done on all the domes.

The Texas Company's operations, which are being handled from the Shreveport office under R. C. Stewart, general superintendent of Arkansas and Louisiana, and A. B. Patterson, superintendent with offices at Lake Charles, with R. R. Hooks, superintendent in charge of the Terrebonne Parish work, are being drilled by J. S. Abercrombie, Inc., of Houston, to which company a contract for all the work was let.

Results of Tests

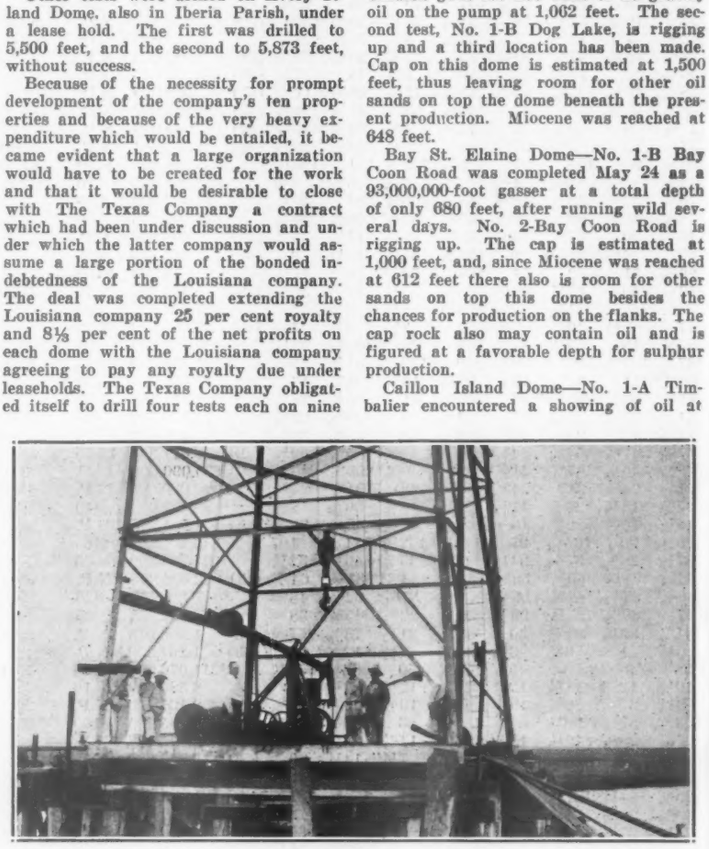
The results of the work done by The Texas Company can be summarized as follows:

Lake Pelto Dome—No. 1-B Lake Pelto tested oil sand at 1,288 feet estimated for 100 bbls. of 18 gravity oil, after which screen was pulled and the hole deepened to 1,388 feet, where it came in flowing through two chokes at the estimated rate of 17 bbls. an hour of 17 gravity oil (corrected for temperature). The top of this dome is deep, estimated at 3,300 feet.

Dog Lake Dome—No. 1-A Dog Lake was completed May 23 as an oil well, estimated good for 200 bbls. of 23 gravity oil on the pump at 1,062 feet. The second test, No. 1-B Dog Lake, is rigging up and a third location has been made. Cap on this dome is estimated at 1,500 feet, thus leaving room for other oil sands on top the dome beneath the present production. Miocene was reached at 648 feet.

Bay St. Elaine Dome—No. 1-B Bay Coon Road was completed May 24 as a 93,000,000-foot gasser at a total depth of only 680 feet, after running wild several days. No. 2-Bay Coon Road is rigging up. The cap is estimated at 1,000 feet, and, since Miocene was reached at 612 feet there also is room for other sands on top this dome besides the chances for production on the flanks. The cap rock also may contain oil and is figured at a favorable depth for sulphur production.

Caillou Island Dome—No. 1-A Timbalier encountered a showing of oil at 2,335-64 feet which tested salt water, and other oil sands at 2,600-05 feet, 2-751-91 feet, and at 2,841 feet. Two attempts to test were negative because of failure of formation shoulder. This test, as this is written, has just entered hard rock at 2,948 feet which may be cap rock.



No. 1-A Dog Lake, the discovery well of the Dog Lake Dome, and also the first oil producer in Terrebonne Parish. This picture was taken just a few hours after the well was put on the beam, powered by a light gasoline engine.

Lake Barre Dome—No. 1-A Lake Barre encountered sand and lime with fragments of cap rock at 616 to 741 feet, anhydrite at 767 feet and salt at 852 feet, and was abandoned in salt at 920 feet. Geophysical estimates for the depth of the cap were closely confirmed. No. 2-A Lake Barre has been rigged up.

Only Land Location

Four Isle Dome—No. 1-A Louisiana Land & Exploration Co., the only land location of all tests so far drilled and to which a canal had to be dredged, reached lime and shale at 421 feet, gyp (showing sulphur) at 588 feet, gyp and anhydrite to 1,381 feet, and salt to the bottom of the hole at 1,502 feet. Location for No. 2-A, to be a deep test, has been made.

East Bay Junop Dome—No. 1-B Taylor Bayou has been rigged up but so far no drilling has been done, other than for a water well.

Vermilion Bay Dome—No. 3-A Vermilion Bay was taken over by The Texas Company, as previously stated, and was finished at a depth of 4,686 feet without obtaining any favorable showings. Location has been made for No. 4-A.

East Hackberry Dome—No. 4-B Calcasieu Lake was drilled near No. 3-B, the producer completed by the Louisiana Land & Exploration Co., but encountered salt at 3,588 feet and was abandoned at 3,812 feet in salt. No. 5-B is drilling.

Calcasieu Lake Dome—No. 3-A Calcasieu Lake, located 500 feet closer to

the dome than No. 1-A, reached anhydrite at 3,449 feet and was abandoned at 3,581 feet with no good result except to confirm the location of the edge of the dome. Location has been made for No. 4-A.

It is understood the Louisiana Land & Exploration Co. still holds between one and two million acres which is being explored by the Geophysical Research Corp., and, it is stated, the company will drill this autumn on several new structures outside The Texas Company's contract, as well as to turn over to this company for immediate development portions of two or more salt domes which were not found under the first shooting of the properties.

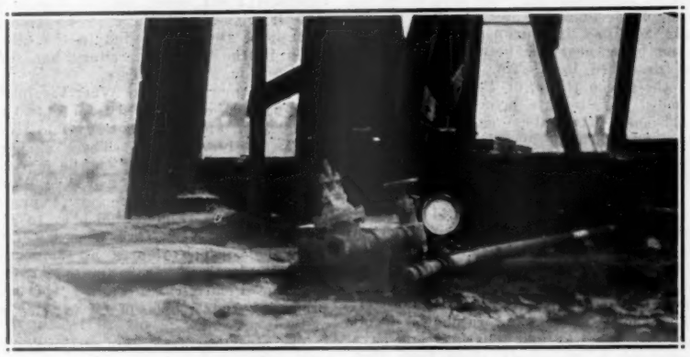
PRACTICAL USE OF PRESSURE CONTROL

(Continued from Page 39)

the "go-devil" used to break the cast iron plate described above.

This bean is threaded on the outside to screw into couplings in the tubing and it has been found that this restricted area in the tubing had a tendency to regulate the flow of the well and materially add to its life.

The tubing is connected with an oil and gas separator at the surface and the pressure on the well is controlled by means of a regulator placed at the well head, the amount of pressure being determined by experiment at each well, and if for any reason the pressure builds up beyond the predetermined amount, the gas is permitted to flow into the oil and gas separator to eliminate as much waste as possible.



Pressure control valve and gauge.

This method of finishing and producing a well has been applied to No. 4 Hotulke in the South Little River area, that is finished in the Gilcrease sand at a total depth of about 3,105 feet with 8¼-inch casing.

This well was finished June 9, 1929, and its initial production was gauged as 785 bbls. in 14 hours, and the second day it increased to 1,090 bbls. for the same period.

A gas meter was installed at the well on June 12, and the 3-inch tubing was run June 15, and the record of the well during June and July is given below.

Production Record—Barnsdall Oil Co.'s No. 4 Hotulke.

Date	Oil	Gas	Ratio	Pres.	Remarks—
June					
12	1,080	1,206,128	1,117	0	Flow thru csg.
13	1,075	1,206,128	1,122	0	Flow thru csg.
14	1,055	1,206,128	1,145	0	Flow thru csg.
15	1,045	676,000	1,155	0	13½ hrs. thru csg.
		484,510	1,059	0	10½ hrs. thru tubing 3"
16	1,075	773,000	719	140	Thru 3" tubing
17	1,050	763,000	727	135	Thru 3" tubing
18	955	752,000	779	125	Thru 3" tubing
19	1,055	744,500	705	105	Thru 3" tubing
20	1,050	780,000	743	105	Thru 3" tubing
21	1,045	732,500	701	115	Thru 3" tubing
22	1,040	725,000	697	108	Thru 3" tubing
23	1,015	732,000	721	120	Thru 3" tubing
24	1,015	722,000	711	120	Thru 3" tubing
25	1,020	737,500	723	112	Thru 3" tubing
26	1,030	742,000	720	118	Thru 3" tubing
27	995	725,000	752	117	Thru 3" tubing
28	1,010	609,900	604	118	Thru 3" tubing
29	1,020	682,000	668	118	Thru 3" tubing
30	975	694,500	712	117	Thru 3" tubing
July					
1	1,005	710,535	707	115	Thru 3" tubing
2	955	780,000	720	113	Thru 3" tubing
3	980	702,600	797	115	Thru 3" tubing
4	965	No report		116	Thru 3" tubing
5	955	675,000	707	118	Thru 3" tubing
6	955	686,000	718	118	Thru 3" tubing
7	925	676,000	731	116	Thru 3" tubing
8	930	690,000	772	115	Thru 3" tubing
9	940	657,000	699	116	Thru 3" tubing
10	920	675,000	734	115	Thru 3" tubing
11	925	693,000	753	115	Thru 3" tubing
12	930	720,000	774	116	Thru 3" tubing
13	920	748,000	812	116	Thru 3" tubing
14	919	747,000	813	117	Thru 3" tubing
15	870	738,000	850	118	Thru 3" tubing
16	885	742,000	838	110	Thru 3" tubing
17	865	772,000	841	109	Thru 3" tubing
18	865	No report			Thru 3" tubing
19	890	743,000	825	114	Thru 3" tubing
20	835	737,000	883	116	Thru 3" tubing
21	875	No report			Thru 3" tubing
22	815	No report			Thru 3" tubing
23	840	728,000	857	114	Thru 3" tubing
24	820	732,000	893	115	Thru 3" tubing
25	830	730,000	880	114	Thru 3" tubing
26	810	730,000	880	114	Thru 3" tubing
27	815	734,000	901	115	Thru 3" tubing
28	890	738,000	930	115	Thru 3" tubing
29	785	756,000	963	115	Thru 3" tubing
30	780	No report			Thru 3" tubing
31	785	771,000	982	115	Thru 3" tubing

This record is worthy of study and consideration, not in that it presents any particularly new conditions but because it is a type condition of wells for that area and the results obtained by handling other wells in this manner has been most gratifying.

It has been reported that the flow of this well into the oil and gas separator is intermittent which would seem to indicate that the gas is heading at the sand zone and pushing the oil out ahead of it as is the case with a typical air or gas lift.

Pressure Control on Pumping Wells

With the results of holding control pressure on flowing wells available for study it was decided to try a somewhat similar method of producing on the pumping wells and this system consists of shutting in the well at the casinghead by means of a pressure relief valve until the pressure between the casing and tubing is from 6 to 100 pounds per square inch and the well is then pumped in the usual manner.

In this system, as in the flowing well, the tubing is perforated opposite the producing sand zone which in most cases in Earlsboro district is about 18 feet off bottom of the hole and the perforated area is about 30 inches long and the holes are one-half inch in diameter.

These wells are about 4,300 feet deep and shot with about 20 quarts of nitroglycerin in the Viola lime which produces about 100 feet of open hole below the casing and a large cavity for the accumulation of the oil and water.

The tubing used is 2½-inch diameter and the last string of casing is 6⅝-inch diameter. The rods are three-quarter-inch diameter and the counterbalance is of the grasshopper type with the crank stroke about 42 inches and the speed from 20 to 21 strokes per minute.

The main advantage noted by carrying a control pressure on these wells, and the practice is now being followed by nearly every large producer in the Seminole area, is that the shutdown time due to rod troubles has been reduced.

This is probably due to the fact that the column of oil and water is aerated by the gas flowing through it and in this way lightened, and with the lighter load and the affect of the upward flow of gas helping to lift the fluid, the load upon the rods is greatly reduced. It is proposed to check this loading very shortly by the use of dynamometers and it is hoped that a further report may be made upon the results of such a test.

In addition to the lighter load of fluid on the rods it is also quite probable that the control pressure applied between the casing and tubing has the effect of keeping the flow of liquid into the tubing steadier than would be expected if the fluid between the tubing and casing was acted upon by an upward flowing stream of gas under sand pressure.

Under the condition of free flow of gas through the casinghead between tubing and casing the gas would seek its escape by the path of least resistance and this would be through the lesser head of fluid outside of the tubing, rather than through the greater pressure created by the full length column of fluid within the tubing, as would be the case if the well were pumping without pressure control being applied.

Another interesting fact has been developed by this pressure control system and that is the tendency to hold back water from the well and permit the fluid level to be so lowered that the oil could flow into the hole more readily.

The amount of rod trouble has been reduced by using pressure control at the well head, and this has permitted a more continued pumping of the well, and the water level has been lowered and as a consequence the well is producing more oil.

The fluid coming from the various wells operating under this system is alive with gas and leaves the well with a velocity similar to that of a gas lift well.

Report of Test Quoted

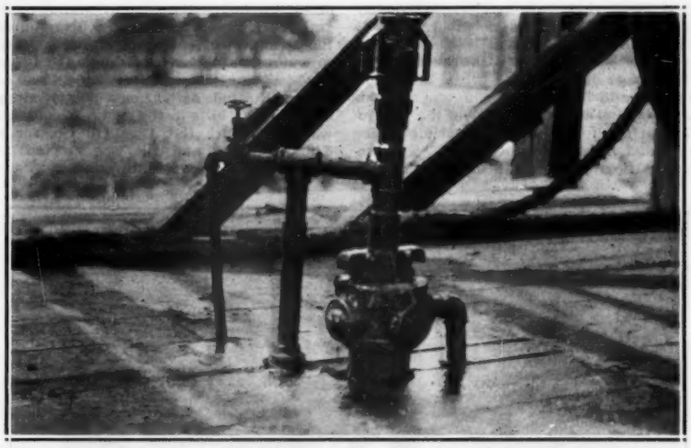
There is a curve reproduced with this article that shows the results of this method of production as No. 2 Peter well in Section 10-9-5, and these curves show the conditions before and after the application of control pressure.

The results obtained are summarized in a report made to Mr. Jacobson by one of his assistants which is quoted in part below:

"By applying the control pressure it has been found that more fluid could be handled with a much easier motion of the beam than was possible before pressure control was introduced.

"It has been found that by continuous run the amount of water has been reduced considerably, but if a shutdown occurs, the advantage gained over the water is lost and can be again secured only by continuous pumping over a long period. Control pressure slows up the incoming water and the fluid level can be lowered to a point where the oil has a chance to enter the well, whereas before the high fluid level due to the water held in the hole, the higher hydrostatic head gave the oil less chance to flow into the well.

"Pressure control has permitted the pumping of the gas wells with less rod trouble, less shut-down time and with an easy motion of the walking beam, which in turn gives better conditions for the gas engine operation. The discharged gas from the control head is utilized by piping the discharge that passes the pop valve to the fuel gas line."



Details of connections at well head, No. 2 Peters.

Some pictures accompanying the article show this pop valve control as well as the arrangement of the connections at the well head and the well actually producing a stream of fluid, which, as stated was noted to be full of gas.

REPORT OF BACK PRESSURE WELLS

Well No.	Method of Prod.	Date Press. Applied	Av. Prod. 30 days Before Oil	Water	No. Rod Jobs Before	Av. Prod. 30 days After Oil	Water	No. Rod Jobs After
D. Davis No. 2	Pump	6-30-29	13¾	103	2 in June	16⅛	154½	7 in July
G. Gibson No. 2	Pump	4-19-29	97	290	6 in June	29	126	4 in July
G. Gibson No. 3	Pump	4-19-29	9	216½	5 in June	8½	103	3 in July
J. Ingram No. 7	Pump	4-26-29	4½	62½	11 in April	4½	50	4 in June 7 in July
Peter No. 2	Pump	4-19-29	35½	107⅛	2 in April	33	111	3 in June 1 in July

Recommend Study

A tabulation taken from the records is given above that will show the results of this control pressure practice as applied to several wells in the Earlsboro area and it will be noted that while in the majority of cases the amount of water produced with the oil is less after applying pressure control than it was before still the amount of oil has also been reduced.

This would seem to indicate that the water is flushing the oil into the hole and if the amount of water handled is reduced the production of oil will fall off.

The table shows the number of rod jobs during the 30-day period before control pressure was applied and for the 30-day period afterward and if the month of July is eliminated from the rod jobs after applying control pressure it will be noted that only 21 jobs were necessary, while before pressure control 26 shut downs were recorded for rod trouble.

It has been observed that each well has its own critical pressure and some experimenting must be done to determine just what is best and after this has been ascertained good results will be obtained by maintaining it at that well.

It might be possible that fluid level and pressure control have some relation one to the other and work is to be carried on to ascertain if this is the case and if it can be determined with any reasonable degree of accuracy it will assist materially in putting this method of producing into use at the indiivdual wells.

The fact that the fluid is aerated would tend to reduce its viscosity and this would reduce friction in the tubing and should have its influence in reducing the work of lifting.

After the wells have been checked with a dynamometer operating with the control pressure on and off, and the amount of gas produced with the fluid has been metered, and the gas-oil ratio determined,

it should be possible to formulate some definite rules to govern producing under this system. Other details as suggested above will also be checked and it is felt that it will be quite possible to determine very definitely the different physical and mechanical forces entering into the problems and utilize them to the best advantage.

Application to Unit Control

When the sand body is such that this method of producing is applicable it seems to be the answer to unit control, for if it is found that each well can be treated without respect to its neighbor, regardless of ownership, it will be possible for wells to be produced with the bean in the bottom of the tubing when they flow natural and in this way conserve the gas or propulsive force to move the oil to the surface for the maximum time interval, and later when the well will no longer flow by natural methods it can

Stream of oil and water produced by No. 2 Peters under pressure control conditions of operation.

be pumped with pressure control applied at the well head and the ultimate recovery from the particular area should be very high as well as very economical.

The term "pressure-control" has been used throughout this article rather than "back pressure," for it is felt that the use of the latter term has left the wrong impression in the minds of many interested in the production of oil who were not inclined to be analytical, for they assumed that back pressure would result in holding the oil back in the formations, whereas it has been found by actual practice that such is not the case and the gas within the formation being controlled is made to do much more work than it would if allowed to rush to the atmosphere with the least possible use of its energy for assisting in producing the oil.

It is therefore felt that the industry is indebted to Mr. Reeser, president of the American Petroleum Institute, for putting into effect that which he has been advocating for many years, even though it did appear that he was going directly contrary to established customs and would suffer a loss of production accordingly. The results obtained are herewith set forth for study by others and it is hoped later to be able to make a similar report upon results that are being obtained by other companies in the Seminole area who are experimenting with pressure control.

TESTING PICEANCE CREEK ANTICLINE

(Continued from Page 43)

tin No. 641. He also intended to report on the oil shales and did not study structural conditions in detail. Others studied the area in a reconnaissance way, most of whom considered it favorable for drilling for oil, but some had doubts about the closure. Also, there was some division of opinion as to the possibilities of oil in the Green River in spite of the presence of oil-making material in that formation.

Blocked 50,000 Acres

While the existence of the structure was known and it had been the subject of extensive investigations and study, no testing for oil had taken place. A. C. Lighthall, of Denver, with his associates, gathered into a block approximately 50,000 acres. In 1926 Mr. Lighthall requested C. T. Lupton, of Denver, to visit the area and determine whether the structure was closed. After checking the work of others and making additional investigations, he reported that in his opinion the structure was sufficiently well closed to warrant a test well through the lower sands of the Green River which are so well saturated at various points along the Petrolite hills to the east. A contract was made with the Argo Oil Co. for a 3,000-foot test and rig was erected on location, but actual drilling did not commence. In January, 1928, R. C. Coffin, chief geologist of the Midwest Refining Co., and E. S. Shaw, of the same organization, reported upon the structure. In a summary of their investigations, they reported:

1. An adequate structure exists.
2. This structure is larger and possesses many factors which make it of more interest than any other test thus far made of the Green River formation.
3. Beds to be tested contain abundant evidence of once having contained materials from which crude oil or associated hydrocarbons could be formed.
4. The outcrop of the beds to be tested show over a wide area oil residues and related hydrocarbons.
5. Adequate sands which could act as reservoir rock exist in the lower portion of the beds to be tested.

We recommend that the test be made, in view of the above points.

Interested the White Eagle

In the meantime additional geological work was done by M. Q. Dannetell, assisted by Dart Wantland, Carl Hubman and A. L. Cerveny. In the fall of 1928, Lighthall made a new deal in which the White Eagle Oil & Refining Co. undertook to make the test, there being a slight change in the location of the well to the spot where it is now being drilled. The well commenced spudding November 1, 1928. Trouble with niggerheads was encountered at 432 feet and no further progress was made. In April, 1929, the rig was skidded 10 feet and No. 1-A Fordham commenced spudding. The Joe Miller Drilling Co. of Denver has the contract.

Describes Structure

The structure lies in the eastern portion of the White River Basin in Rio Blanco County, 45 miles by road from Meeker. The trend is northwest and southeast through Townships 1, 2 and 3 south, Ranges 95, 96 and 97 west, the southeastern edge being approximately 35 miles from the town of Rifle. The normal dip of the structure is to the west as the controlling structural feature lies to the east of the Grand Hogback and the critical closure, therefore, is to the northeast, east and southeast. These closures, according to Lupton, judging from the dip readings as shown on his map are very satisfactory. The structure is approximately 10 miles long and from 2½ to 3 miles across at its widest points. The crest of the axis for the most part is a topographic high or ridge. The average elevation of the ridge, or plateau, ranges from 7,500 to 7,900 feet above sea level, whereas the elevation along Piceance Creek ranges from 6,000 to 6,500 feet. The plateau which is approximately the high part of the structure is considerably broken, particularly in the southeast two-thirds of the area, numerous gulches emptying into Piceance Creek on the south and east and into Dry Creek and Timber Creek on the north and northeast.

The upper part of the Green River is the surface formation at the top. Since the sands in which it is hoped that oil will be found in commercial quantities are included in the lower part, it is not necessary to describe the upper part. Lupton reports that the lower one-third contains several sandstones capable of serving as reservoirs for oil or gas. These sandstones are thoroughly saturated at their outcrops at the Petrolia hills. Above this sand zone occur the rich oil shale zone which contains the famous mahogany beds, or veins. A cross section shows approximately 470 feet of sand, ranging from a few feet to 27, 41, 55 and 200 feet in thickness, the thickest sand being near the bottom. The beds, as described by Coffin, belong entirely to the Green River, of Tertiary age, and consist of alternate layers of sandstone and shale, the sandstone usually being buff to brown in color, loosely cemented, and the shales are platy, limy in character and often quite sandy.

Showing Oil and Gas

As this is written the hole is bottomed at 2,140 feet and is showing from 500,000 to 1,000,000 feet of gas coming from the sandy shale horizons, with good shows of oil. The first sand in the lower Green River is expected at around 2,300 feet. The shows of gas and rainbows of oil commenced at around 1,400 feet and have persisted in the sandy shale from that depth on. Previous to reaching that depth the drill went through an aggregate of 300 feet of maltha, the thickest streak of which was 15 feet. This material burns readily when ignited and is dissolved easily into oil when saturated with gasoline. In addition to the evidences of oil found in the saturated outcrops, Lupton described evidences of oil found in a fault on Jessup Creek in a similar formation which burned readily and which showed crude oil when given the ether test, turning black when a lighted match is applied. This is described as a dry oil. The showings in the well so far are described as being as near a producing wildcat as is possible without the sand actually being reached.

There are approximately 11,000 acres within the closing contour as at present mapped. This closure is 225 feet as far as definitely determined, but may be greater. The closure as given on the maps appear to have been definitely confirmed by the presence of the gas so far found. The White Eagle Oil & Refining Co. is credited with holding 5,180 acres on the structure. Other blocks are held by the Midwest Refining Co., the Argo Oil Co., Snowden & McSweeney, E. P. Earle, a director in the Phillips Petroleum Co. and in the Nippissing Mining Co., and several smaller companies. One of the major companies at present is engaged in mapping the entire region from an airplane in hopes of locating other structures. The efforts to bring about a test of the structure involved a tedious and persistent campaign on the part of Mr. Lighthall, but now that it is actually under way, no wildcat in the Rocky Mountain area is receiving greater attention. So far the question of closure, which held up testing, appears to have been settled and the other of whether oil is to be found in the lower Green River is now close to actual determination.

Two other tests in the Green River have been drilled in this general area, both of which were in Utah. One of these was put down in 1922 by the Utah Oil Refining Co. on the Hill Creek Dome in Uintah County, in the NW Section 32-14s-20, and was abandoned at 2,150 feet. The other was drilled by the Midwest Exploration Co. in 1927 on the Duchesne structure in Duchesne County and was abandoned at 4,760 feet in shale, having failed to encounter any sands and stopping with 2,000 feet of unexplored Tertiary below the bottom. These two structures, according to the reports of the geologists, represented features entirely unlike those found at Piceance Creek.

PENNSYLVANIA MARKET A MERCURIAL QUANTITY

(Continued from Page 44)

hooves operators in that area to carefully watch their step."

What Happened This Year

Now what happened? The United States Bureau of Mines' report on production in the Pennsylvania grade fields in January showed an average of 64,300 bbls. per day. The same authority gave the production in June as 70,600 bbls. per day. The June report is the latest available. It is quite likely that the June production is considerably below the current production, as the Allegany and Bradford Field crude output has been steadily rising and there is no reason to suppose that production in the other fields in the general territory has suffered any material decrease.

From January to June West Virginia's daily production increased from 14,900 to 15,100 bbls. and southeastern Ohio from 13,800 to 14,300 bbls. These changes could have had no effect on the market. It was in Pennsylvania and New York that the real increase is found. Pennsylvania increased from 27,400 bbls. to 31,800 bbls. and New York from 8,200 to 9,400 bbls. The figures all represent daily production. It is quite possible that the Pennsylvania grade fields are producing 72,000 bbls. of oil per day or more at present.

The pipe line statements of the Standard and other lines running oil from Pennsylvania grade fields and reporting their runs show the following changes in July compared with January.

	Crude Oil Runs in January (Bbls.)	Crude Oil Runs in July (Bbls.)
National Transit Co. ..	136,672	268,968
Southwest Penn P L ...	99,616	96,958
Eureka P L	352,729	378,139
Buckeye P L (Macksburg)	330,659	352,282
N Y Transit Co.	26,987	32,169
Tide Water P L	201,809	284,597
Pure P L	62,975	164,484
Emery P L	64,263	72,339
Total month	1,275,710	1,649,936
Daily average	41,152	53,224
Increase in daily ave.		12,072
Per cent increase		29.3

Note—A portion of the Tide Water runs represent oil produced in Illinois, but the great gain in the company's runs came in the Pennsylvania and New York fields.

In addition to the above named pipe lines, many of the independent refiners in the territory maintain gathering lines and run oil and have been purchasing all the oil their steadily increasing business required.

Stocks of Pennsylvania grade crude oil held by companies submitting pipe line reports were 2,988,208 bbls. at the close of January and 3,279,172 bbls. at the close of July, indicating a backing up into storage of 280,964 bbls. in the course of the six months.

This does not appear to be very much oil when measured by days, but the balance between supply and demand of Pennsylvania grade crude oil is so delicate that an undersupply of 3,546 bbls. per day over a period of 12 months sent the price upward $1.30 per bbl., and an oversupply of 1,552 bbls. per day over a period of six months cut the price 55 cents per barrel, which was followed shortly afterward by the most recent cut because, it is supposed, the oversupply persisted.

SCIENTIST DOES NOT PRETEND TO FIND OIL

(Continued from Page 43)

riably find its place in the middle of the bottle above the water and below the air.

Same Thing Happens in the Rocks

And this is exactly what is happening in the rocks under an anticline or a dome. If a ledge of porous sandstone forming a reservoir lies beneath a bed of impervious shale, which is the cap rock, and the rocks have been arched up forming an anticline or a dome, the three substances, oil, gas, and water, which are usually associated in the sandstone reservoir, will arrange themselves in the order of their specific gravity. That is to say, the gas will be found at the crown or the apex of the anticline, the water will be found in the trough or syncline, and the oil will accumulate along the slopes of the anticline on either side of the gas.

This, in brief, is the whole theory of oil accumulation. What the geologist and other scientists are trying to do is simply to find the bottle underneath the surface which contains these substances.

It is like the old game of our childhood, "Button, button, who's got the button?" It is simply a question of "Bottle, bottle, where is the bottle?"

The location of underground bottles, or subsurface structures, which may possibly contain oil or gas is by no means an easy matter. Sometimes these structures may show on the surface, but more often they do not.

Some Illustrations

Suppose I have before me an ordinary dining room table covered with cloth. If I were to slip a small silver coin under the cloth, and were then to hand a man a pencil and ask him to stab down and hit this coin concealed under the cloth, what chance would he have of hitting it the first time? Perhaps one chance in a hundred, and this is just about the chance the oil man will have of striking production without any surface indications or other scientific reasons for drilling a well in any particular place.

Suppose, however, that I slip under the cloth an inverted saucer which might represent a dome. One would have no difficulty in noting where the cloth was raised and probably could hit the saucer the first time. This inverted saucer under the cloth might represent a well-marked surface structure.

If, however, instead of the coin or saucer I slip under the cloth a small lead pencil which might represent a small anticline, a man would have difficulty in hitting the lead pencil, but if instead of a lead pencil, I used a rolling pin, which might represent a large anticline, the rolling pin could be found without difficulty.

These homely illustrations, the coin and the inverted saucer which represent small and large domes, and the pencil and rolling pin representing small and large anticlines, will show what I am trying to get at. The geologist or other scientist simply is trying by various methods and means to locate the various forms of structures, some of which show easily on the surface and many of which do not.

Early Oil Wells

The first wells in the United States which produced oil were not oil wells at all but were drilled for salt brine. Oil, a waste product from brine wells, was refined at Pittsburgh and Tarenton, Pa., as early as 1842-43. The only products saved were kerosene and medicinal oil.

In 1859 Col. E. L. Drake drilled a well for oil near Titusville, Pa., and on August 28 of that year the first oil well came in. At this time rock oil was selling for $25 and $30 a barrel. During the 70 years between 1859 and 1929 almost each year has seen the total amount of oil product increase over the year before, until today the production of oil in the United States totals around 900,000,000 bbls. per year.

During the first few decades of the oil industry wells were located in a haphazard manner without scientific advice. Men played hunches. Oil wizards with crooked sticks or other mysterious devices were frequently employed to locate oil wells.

An operator of the old school once told me that his method of locating an oil well was to tie a tin can to a dog's tail and start the dog off across the country. Where the tin can came off there he would drill his well. And these methods were sometimes successful in locating oil. It has been estimated that one well out of 50 located by these unscientific methods really produced petroleum, just as one would have perhaps one chance in 50 of hitting the coin under the table cloth.

Natural Phenomena Noted

The first method for finding oil used alike by the oil man and the geologist, and still used in certain instances, was the observation of natural phenomena, such as asphalt seeps, oil springs, and gas vents. Asphalt or pitch, has been used for untold generations. Noah's ark was daubed with pitch, or asphalt, within and without, and Moses' cradle of bullrushes among the reeds of the River Nile was lined with pitch. And it is interesting to note that the Assyrian and Egyptian asphalts are still on the market.

One of the most noted of ancient shrines of the fire-worshipers of the Zoroastrian religion, was located on the shores of the Caspian Sea, where burned the eternal fires. Science has demonstrated that the eternal fires were nothing but a gas vent on the axis of an anticline. This is now known as the Baku anticline, and the great Baku oil field of Russia on the Caspian Sea now surrounds this original gas vent and Zoroastrian Temple.

During the eighties and nineties of the nineteenth century scientific methods for locating oil were first used. The anticlinal theory of oil accumulation, which I have described briefly, was first successfully employed. Several men working independently seem to have arrived at the elements of this theory at about the same time, but it was Dr. I. C. White, state geologist of West Virginia, who first successfully used anticlinal methods in locating oil.

"Tin Can" Methods Persisted

However, the thing was a matter of slow growth. For several years geologists themselves were not sympathetic toward Doctor White and his theories. The oil men scouted the idea and continued to use doodle-bugs, magic rods, hunches, and tin cans tied to dogs' tails. It was not until the first decade of the present century that geological methods were used to any considerable extent. During those years geologists were treated as a sort of mild freak or as the typical absent-minded professor. And it was not until these men had demonstrated times without number that they were really able to save the oil man money, that the science of geology came into its own in the matter of oil-finding.

I think I am safe in making the statement that never in the history of any industry has there been such a complete revision or right-about-face and change of front of public opinion as has been experienced in the attitude of the oil man toward the scientists during the past two decades.

Today all of the larger oil companies employ a scientific staff. Geologists, engineers, chemists, paleontologists, petrologists, physicists, geophysicists and geothermal men are in the employ of most of these large companies. Laboratories are maintained, experiments are constantly going forward, examinations are being made of this, that, and the other thing in the endeavor to find more and more oil, so that today thousands of young men and women are making a livelihood along scientific lines in assisting oil men to put barrels of oil in the tank.

Reconnaissance Method

The second method for locating oil and really the first scientific attempt along this line is one which in many cases is still practiced by geologists. It is usually known as the reconnaissance method. The geologist provides himself with three simple hand instruments; the aneroid barometer for taking elevations, the Brunton compass for taking dips, and the Locke level with which he can take a sight on some distant point and determine whether it is higher or lower than his present position. With these instruments in his pocket the geologist walks or rides across the country looking for outcrops of rock ledges. If he finds, as he often does, a ledge of rock dipping in two directions from a certain point, something like the roof of a house, he knows that he has located an anticline.

One might ride or tramp weeks in a region without finding any surface indications that look favorable. Having found indications of an anticline, the geologist oftend spends days tramping out the region and locating the axis of the anticline. The land will then be leased and a well drilled. Many of the earlier oil fields in the United States have been located in this manner.

Plane Table Much Used

The third method for locating anticlines and the one which has been used more than any other single method, and perhaps more than all other methods combined, is known as the plane table or alidade method. The use of this method requires a knowledge of civil engineering as well as geology. Two men go into a country, one carrying a 12-foot rod, the other with a plane table on a tripod, and a surveying instrument known as a telescopic alidade. The object is to trace out and map the outcrop on the surface of a certain ledge, or series of ledges, in an endeavor to find an anticline or dome.

Very often this method, along with the reconnaissance man with his simple hand instruments, will locate a structure. Then the alidade party will follow and prepare the contour map. This map shows by contour lines the "highs" or anticlines and "lows" as indicated by the position of surface ledges in the region surveyed. It is on the basis of contour maps that most wells are located.

This method was first employed in the Mid-Continent oil field about 1912, and at the present time there are hundreds of parties throughout half a dozen states in the Mississippi Valley engaged in contour mapping with the plane table and alidade. In certain parts of Kansas, Oklahoma, and Texas, there is scarcely a section of land that has not been mapped, often scores of times, by the geologists of various oil companies.

Method Never Superseded

This method of hunting structure has never been superseded, and probably never will be, for general geological work. It can be used only, however, in regions where ledges of rock outcrop on the surface.

To give an example of the extent of this work, a single oil company recently undertook the surface contour mapping of an area in west Texas almost as large as the State of New York. Scores of parties were put to work in dozens of counties, and this work was continued for several years. Data of this kind which have been collected and compiled are now resting in the confidential files of many a large oil company with headquarters at Houston, Dallas, Tulsa, or New York, and much of this information, being confidential, will probably never be released to the public.

A fourth method which follows closely in the steps of the surface work which I have described is known as subsurface geology or the determination of structure from logs of deep wells. More and more each year the driller is keeping better and more accurate logs of the wells that have been drilled.

In many states the law requires that copies of each of these logs be submitted to some state organization. In Oklahoma it is the Corporation Commission, and anyone wishing these logs may secure them by paying a nominal fee for copying. These logs are collected, plotted in color on long strips of paper, and by the study of these logs, subsurface conditions are determined.

Often No Surface Sign of Structure

It has been found that in many cases there are structures, that is anticlines or domes, beneath the surface that do not show at all in the surface rocks. For instance, in Okmulgee County, Oklahoma, it has been found by the study of well log data that in certain places there are three different sets of contours on three different producing oil sands. These contours did not show on the surface, but were worked out entirely by the study of well logs after a number of wells had been drilled in the field.

Each of the larger oil companies now has what is known as the subsurface department. When a series of wells have been drilled in a certain region, elevations are run to the mouths of the wells, the logs are secured, and skilled men and women in the subsurface department plot these logs in color, and by means of careful study they are often able to determine structure beneath the surface which does not appear otherwise. This is one of the departments where women graduates of schools of geology are profitably employed.

A fifth method used for determining oil structures is known as core drilling. In many places there are no surface ledges which will give a geologist a clue to underground conditions. On the flat plains of western Kansas, Texas, and Oklahoma, there are few surface rocks. In the glaciated areas of Illinois, Michigan, and Ohio, bed rocks rarely reach the surface. In many regions as for instance river valleys, deposits of loose rock or alluvium have blanketed the bed rock. This being true, other methods must be sought for determining structural conditions. That is to say, some other way must be found for locating anticlines or domes.

Shallow Wells Drilled

By the core-drilling method, shallow wells, usually only a few hundred feet deep, and relatively inexpensive to drill, are put down at regular intervals throughout the country. The object of this core drilling is not to find oil but to find beneath the surface some definite ledge upon which subsurface structures may be worked out. This is usually a ledge of limestone or perhaps a bed of red clay, in fact, almost any datum of ready reference.

During the past few years it has been a common thing in certain parts of Kansas and Oklahoma to find the small core-drilling machines busy at work drilling shallow holes in the farmers' fields in order to determine what may be found beneath the surface, and several of the larger producing fields in the Mid-Continent area have been discovered in this way.

As more and more of the easy work has been accomplished and the greater number of fields determinable by surface methods have been located, the oil man has been obliged to resort to some other method for finding anticlines and core drilling is in many ways the cheapest and most efficient method that has been devised.

Fossils the Geologist's Clock

A sixth method is by means of fossils. Fossils are the geologist's clock, the thing by which he tells the geologic time. Studies by many men in many lands for the past 125 years have shown that no two geologic ages contain the same kind of fossils.

It was James Hall, the noted New York geologist, who once said, "You may blindfold me and take me to any part of New York you choose, then turn me loose and give me time to find a fossil in the rocks and I will tell you, if not the exact county, at least the part of the State I am in."

And so geologists and paleontologists by studying these fossil animals and plants from all parts of the world can identify with great accuracy the different geologic formations. The fossils found in the rocks at the bottom of a well always differ from the fossils in the upper horizons. So that by study of the fossils brought up from thousands of feet below the surface, the geologist often can identify the particular formation in which the drill is working.

The great trouble is, however, that the bit, in pounding its way downward from the surface, crushes and mangles the fossil shells until they are usually macerated and ground into powder so that they are scarcely recognizable. There is, however, a type of fossil not easily injured by the

drill, and that is the little fellows, or as the geologist would call them, the microfossils, the miscroscopic forms often too small to be distinguished by the naked eye.

Drill Cuttings May Tell

If the drill cuttings from any particular formation beneath the surface are saved and turned over to the micropaleontologist he often can tell by examining these tiny forms under the microscope, just where in the geologic column they belong, and knowing the formation in which the oil may be expected in this particular well, he often can tell by the study of these micro-fossils whether or not it will be necessary to drill deeper to find this oil. By this method thousands of dollars often is saved by the oil man.

Most of the larger oil companies now have a micro-paleontological staff, and these scientists are busy day after day examining specimens sent them from all parts of the country. This again is a department where trained women paleontologists are very efficient.

A method somewhat similar to the study of micro-fossils is that of the study of heavy minerals. Sandstone is made up of grains of sand cemented together, and sand grains consist of small fragments of minerals of various kinds, the most abundant of which are grains of silica or quartz. But in addition to quartz one finds in most sandstones grains composed of many minerals.

Now geologists have learned that certain minerals predominate in certain sands. One sandstone may contain an abundance of fragments of tourmaline, another of quartz, another of zircon, and still others may contain other minerals in varying amounts. So that the geologist and petrographer by studying the grains of sand brought up from thousands of feet beneath the surface often may be able to determine with considerable certainty just what ledge the drill is penetrating.

If both micro-fossils and certain types of heavy minerals are present the evidence is just that much more conclusive, but in case the fossils are not present, as sometimes happens, identification often may be made on heavy minerals alone. This is another specialized science where women are effective.

Brine Analysis Helps

A method used by a number of the oil companies is that of the analysis of deep-well brines. Most deep wells encounter salt water, but it so happens that while the water from a single stratum will show practically the same chemical content over wide areas, water from different strata usually show different contents. Or to say it differently; no two brines from different beds ever analyze exactly the same. Recognizing this fact, many of the larger companies collect the brines of each stratum, if any are present, and have them analyzed, and by so doing are often able to determine with much certainty the correlation of the various beds.

A new method, or perhaps one should say a series of new methods, for the location of possible subsurface structures has come into general use in the oil fields within the past three of four years. I am now referring to the use of so-called geophysical instruments.

There is a popular notion that these geophysical instruments are used for finding oil. This is a mistake. No instrument known to man will locate oil beneath the surface. Literally hundreds, perhaps thousands, of instruments of this kind have been tried without success. These are the ordinary doodle-bug, forked-stick instruments used either by ignorant men or by fakers, usually designed to catch the unwary. The geophysical instruments to which I am now referring are bona fide scientific mechanisms, designed chiefly by eminent physicists and mechanics. They are used, not to find oil but to attempt to find buried anticlines or domes, which sometimes contain oil.

Instruments in Common Use

There are four classes of these instruments in common use today; namely, the torsion balance, the seismograph, the magnetometer, and the gravity pendulum.

The torsion balance is a device for measuring the rate of change of the minute gravitational forces caused by hidden masses of higher or lower density. The data brings out the maximum horizontal variation in gravity and the direction of no change in gravity.

The seismograph is a device for receiving and recording artificial earthquake waves, thereby determining local variation in the rate of passage of waves through the earth's strata. The data are secured on the principle that the speed of transmission is different for formations of different physical proportions.

The magnetometer is used for measuring the components of the earth's magnetic field. By comparing readings at different locations, variations in the earth's magnetic field can be detected for formations that have abnormal magnetic properties, for instance, masses of igneous rocks, etc. In field practice, the vertical component is usually measured.

The gravity pendulum is a specially designed timepiece which records the local variations in density of the subsurface forces in terms of differences of gravity.

Successful in Gulf Coast

Let me cite a specific example showing how these instruments have proved successful. Practically all the oil found along the Gulf Coast of Texas and Louisiana occurs under what is known as salt domes, of which Spindletop, near Beaumont, is the outstanding example. Sometimes these domes can be determined from the surface. Often they cannot.

Donald R. Barton, of Houston, an authority on the subject, states that during 30 years' exploration up to 1921, 38 salt domes had been found by surface indications. Since 1921, 35 additional salt domes have been discovered by the use of geophyscial methods. It is estimated that since 1921 between $6,000,000 and $7,000,000 has been spent by the various oil companies on geophysical methods on the Gulf Coast alone, and at present $300,000 a month is being spent in this region

One of the last things over the horizon, and one which is being used to a very limited extent, is what is known as the ceramics method. It is based on the theory that no two clays will burn the same color in the same temperature, and at the same time no two clays have exactly similar colloidal qualities. So that if there are no micro-fossils in a well, and the identification of heavy minerals do not help solve correlation problems, and if analyses of salt brines do not aid, it is sometimes possible by making burning and colloidal tests on the clays to determine the geologic horizons. This is another problem not yet solved but which in time bids fair to help in oil-finding.

Deep-Well Temperatures

Another method and one which is now being tried out in but few places is known as the geothermal gradient method, in other words the determination of underground temperatures in deep wells. We were taught in our school geographies that the temperature of the earth increased downward about 1 degree for every 63 feet beneath the surface.

Experiments now being carried on in three states, California, Texas, and Oklahoma, under the direction of the National Research Council, financed by the American Petroleum Institute, show that as a usual thing the increase of subsurface temperatures is much more rapid on geologic structure than under ordinary conditions. On some of the salt domes of Texas, for instance, the temperature increases 1 degree for every 20 feet.

Just what this may mean we do not know. It is one of the problems which must be solved by careful, systematic investigation through a period of years, but many believe that once the problem has been solved, the method of testing of deep-well temperatures will have its place in oil-finding.

Does the Scientist Find Oil?

But you are now asking, after all, what is this all about? Does the scientist, that is to say the geologist, chemist, physicist, and engineer, really help the oil man in finding oil? This question is pertinent. It is the one question that is asked always and everywhere. Times without number this question is put to the scientist. Can the scientist by the use of one or the other of the methods that I have described, actually put oil in the tank? For the oil man, being intensely practical, is not at all interested in science as such. He does not know nor care anything about either the abstruse problems or the technique of any one of these sciences. All he wants is their practical application. If the scientist can help him to discover more and more oil, well and good. He will put the scientist on his pay roll. If the scientist does not help to put oil in the tank, it's just too bad for the scientist. He must hunt another job.

Perhaps the best demonstration of the utility of geology and other scienitfic work in the discovery of oil may be made by a comparison of oil fields. It is not always easy to determine accurately whether a certain field was or was not brought in by scientific advice. So many different factors enter into the problem that it is often impossible to state definitely that this particular field was or was not drilled because some geologist so recommended.

What 226 Fields Show

A few years ago I made a somewhat detailed study of the problem in Kansas, Oklahoma, and northern Texas. I selected for study 226 oil fields in these three states. These fields included a number of the largest oil fields in the United States as well as many of the smaller fields. I wrote scores of letters and interviewed many individuals trying to get the best possible data on the subject.

These 226 fields were divided into three classes, namely: first, the early fields, those that were brought in 20 to 25 years ago before oil geology was practiced; second, the fields located by geologists in advance of drilling; and, third, the fields which were brought in by accident, or "without benefit of clergy." The results were as follows:

Early fields, 56, or 24 per cent.

Brought in by accident, 13 fields, or 6 per cent.

Located by geologists, 157 fields, or 70 per cent.

And I believe that it is the consensus of opinion that this will continue to be a fair average. More and more every year oil fields will be located by scientific advice. The easy structures, that is to say those that can be found by reconnaissance methods or by the plane table and alidade have largely been discovered. There is scarcely a square mile in a dozen of the states of the plains that has not been gone over many times by this method. This in turn means that the greater number of the oil fields to be discovered in the future will be worked out by the somewhat more complicated methods such as core drilling, micro-paleontology and geophysical methods.

Accidents Will Happen

Accidents will continue to happen, as they always have happened, and occasionally a well will be drilled without geological advice, by the old-fashioned oil man who does not believe in these new-fangled notions, or by the unscrupulous promoter, will find oil.

But as the years go on, the number of fields so located will be fewer and fewer, and the fields brought in by the use of one or the other of the methods which I have attempted to describe will be more and more common.

It is absolutely essential that we continue to find more and more oil or the balance of our modern civilization will break down. Can you imagine a motorless, gasolineless age? Synthetic gasoline from coal, or the derivation of power from alcohol, may in the future prove to be practical, but at the present these things are roseate dreams. The ingenuity of man will eventually solve these problems, but it is rather unlikely this will happen within the experience of anyone now living.

It is up to the scientist to continue to devise new methods of oil finding and to continue to perfect his technique in methods now in use.

DEATH OF J. C. McCUE OF THE TEXAS COMPANY

HOUSTON, Tex., Aug. 20.—Joseph C. McCue of Houston, Tex., assistant manager of production for The Texas Company and a pioneer Gulf Coast operator, died Monday following an illness which forced his retirmement from active service with his company for the greater part of the past year.

Mr. McCue started out in the earlier

Joseph C. McCue

days of the oil business with the Carter Oil Co. at Sistersville, W. Va., serving later with the Guffey Petroleum Co., now the Gulf Production Co., and in 1905 became associated with J. S. Cullinan and The Texas Company, a service which has been uninterrupted except for a brief period when he became associated with the Benedum & Trees interests.

OIL EARNINGS SHOW BIG RISE FOR YEAR

(Continued from Page 147)

stock dividends. The company declared its regular quarterly dividend of $1.75 a share on its $7 preferred stock, payable September 1 to holders of record August 15.

Columbian Carbon

For the June quarter this year the Columbian Carbon Co. and subsidiaries report an net income of $1,025,632 after federal taxes, depreciation, depletion and minority interests, equal to $2.25 on 457,344 shares of no-par stock, against $1,059,957 or $2.32 a share on the same basis in the first quarter and $659,319 or $1.64 a share on 402,131 shares in the first quarter last year. For the half year ending on June 30 the net income was $2,085,590, equal to $4.57 on 457,344 shares, compared with $1,330,154 or $3.31 on 402,131 shares in the first half of last year.

Cumberland Pipe Line

Cumberland Pipe Line Co. declared its regular quarterly dividend of $1, payable September 16 to stock of record August 31.

LAGO'S WEEKLY PRODUCTION

NEW YORK, Aug. 19.—Lago Oil & Transport Co. during the week ended August 9 produced in Venezuela 596,813 bbls. of crude, an average of 85,259 bbls. daily, as compared with 582,047 bbls., a daily average of 83,150 bbls., in the previous week.

Shipments by Lago were 593,357 bbls., or 84,765 bbls. per day, against 567,145 bbls., a daily average of 81,021 bbls. per day, in the previous week.

The new Lago refinery at Aruba is reported to be taking all of the crude now produced by the company in Venezuela.

DIAMOND DRILL HELPS TO CONQUER DIFFICULTIES IN TURNER VALLEY

By Robert T. Banks*

Diamond drills were introduced in the Turner Valley, Alberta, oil field about a year and a half ago. The development of a diamond drill large enough to handle rods and casing for productive oil work has simply been a progressive step, and the principle of the diamond oil drill is practically the same as the small drill. The small drills, as well as the large ones, use a flush joint rod for drill stem with a core barrel on the end for recovering samples of the rock penetrated, and the drilling bit is set with black carbon, or some substitute for carbon.

The principal features of the diamond drill for oil work are, first, the ability of the flush-joint drill rod to operate through a stuffing box or oil saver, which enables the drilling operations to continue even after high pressure gas is struck. Another feature is that pressure on the bottom of the bit can be controlled within 100 pounds, due to the fact that the feed is under control of a hydraulic cylinder which is extremely sensitive. This method of feeding enables us to drill at great depths, and the perfect control of the pressure permits us to use black diamonds as a drilling medium, whereas, if the pressure could not be controlled, the diamonds would be broken and ground up within a few seconds after the rotation started. In addition, the diamond drill can take cores at any point, and this has been extremely valuable in correlating the different rock formations in the Turner Valley Field.

Like Formations in Other Fields

The formations encountered down to the Dolomite lime are generally good drilling, and similar to formations encountered in other oil fields. If the diamand drill starts from the surface, we use the same method as the rotary drill, that is, drilling the soft formation with a fishtail bit and using rock bits where harder formation was encountered. In all of our drilling down to the limestone, we would circulate in the hole a heavy mud solution, weighing 70 to 72 pounds to the cubic foot. This mud is pumped down through the drill rods and circulates up between the outside of the drill pipe and the circumference of the hole. This mud solution is necessary to prevent the softer shales from caving, and the centrifugal movement of the stem throws the mud to the walls and seals them and thus prevents caving. This method of drilling enables many hundred feet of open hole to be carried before casing is necessary.

To describe the difficulties encountered in the field, we will assume that we are taking over a well drilled practically down to the limestone, and abandoned at that point because of inability to drill the hole straight and penetrate the extremely hard limestone strata. We will assume that the well is approximately 5,000 feet deep at this point, and that due to the inclination and the extreme hardness of the limestone strata, the hole has turned off from the vertical during the last 15 to 20 feet of drilling. We have found in this field, in taking over abandoned wells, that the walls of the hole and generally the bottom contain small pieces of broken cones from rock bits and often splinters of casing. All of this material must be recovered before the diamond bit can be started in the hole. Otherwise the diamonds would be promptly ground to pieces.

Blank Bit Used First

The first operation of the diamond drill in taking over the hole is to lower the drill rods with the core barrel and a blank bit to the bottom. This blank bit will do no drilling, but when this equipment is lowered to the bottom, it is easy to determine, provided the core barrel starts to bind, that the hole has been diverted from the vertical. If we are fortunate enough to reach bottom and the blank bit revolves, the scoring of the bit shows there is iron on the bottom which will have to be removed.

The next step is to reverse circulation. That is, instead of pumping the mud solution down through the drill pipe, the solution is reversed and pumped down between the casing and the drill rod, and forced up through the drill pipe. The rapid velocity of the mud through the drill pipe will lift off the bottom all small pieces of iron particles and carry them out through the drill pipe. The next operation is to pull the rod, and in place of the core barrel and bit, we fasten a recovery basket on the end of the rod. This basket consists of a piece of iron pipe slightly smaller than the hole. About 2 feet from the bottom this pipe has a slot about 2 inches wide and 10 or 12 inches long. Above this slot is a collar, which in diameter is just smaller than the diameter of the hole. Above the collar another large slot is cut and screened, so that a solution can pass through this slot, but the larger particles are held.

When this is lowered on bottom, the mud circulation is started. The mud goes down through the bottom of the pipe and out in the hole and starts upward. The mud solution, with the pumps compounded pick up the heavy pieces of iron, and the solution is carried through the slot and up. The screen enables the mud solution to go up, but the iron particles are stopped by the screen, and settle to the bottom of the basket. The hole is now clean and we again pull the rods and remove the basket. Frequently, we pick up 2 or 3 quarts of iron and steel particles during this operation.

Hole Straightened Next

The next step is to straighten the hole so that drilling can be continued. To do this, we make a heavy solution of cement and water, and pump this into the bottom of the hole, and allow it to set for several days. When this cement plug is hard, we again go into the hole with a diamond bit and drill out this cement. When we reach the point where the well has started to deflect, we drill very carefully and slowly until we catch a small shoulder in the actual rock and away from the cement core. By drilling very carefully and slowly in this way, and using a core barrel, which is practically the same size as the hole, and which will not be diverted, we are able to straighten the hole. In Turner Valley, holes have been deflected as much as the width of the hole in 20 or 30 feet.

We now continue drilling with the diamond bit in the straight hole, and penetrate a few feet into the Dolomite limestone. At this point it is necessary to lower a string of casing and cement the casing in, in order that the gas pressure when struck will stay inside of this casing. It is necessary to drill open hole from this point on, until we reach production. Assuming that the hole is 6-inch down to this point we lower the 4¾-inch casing to the bottom of the hole. In order to get the cement behind this casing, we raise the casing a few feet off bottom. With the casing held at this position we then pump down about 300 sacks of cement, after mixing it with water to the proper consistency so that the pump can handle it in good shape.

After pumping the 300 sacks of cement into the casing we force it down and outside the casing by means of a wood plug forced down by the circulating solution. The cement is allowed to set until it is perfectly hard. We now have the casing solidly set in the limestone and it is only necessary to drill out the plug in the casing to continue drilling in the limestone.

Crude Oil as Circulating Medium

At this point, we abandon the use of the mud solution and substitute a new circulating medium, crude oil. It may be well to digress for a moment to give you briefly our experience in the well we first drilled in the Turner Valley Field, the No. 1 Illinois Alberta. Without previous experience in the Turner Valley Field, we thought we could control the gas pressure by using a heavy solution of barium sulphate. When we struck the gas in this well, the pressure behind it was 3,500 to 4,000 pounds to the square inch and the barium sulphate column shot out of the well. In addition to this, the rapid expansion of the gas froze the water in the solution which was left, with the result that the core barrel was frozen solid in the hole. This, of course, stopped all gas flow from the well, and we were able to back off all but 80 feet of the rods in the well.

After several days the high pressure of the gas thawed the ice and the well again flowed freely with 600 pounds back pressure. This well has produced continuously for the last year and a half with constantly increasing production. It is producing 100 bbls. of 70 degrees naphtha per day.

This experience with heavy water solutions for circulating proved that if any water was in the hole when the gas was struck, freezing of the well was a foregone conclusion. Since that time we have used crude oil for a circulating medium, and we have been entirely free from this trouble.

Well Frozen In

To illustrate the effect of even a slight amount of water in the hole, the experience we had on No. 1 Dalhousie well may be of interest. In this well, the crude oil for circulating was contained in a sump dug in the ground. After some of the smaller gas measures had been encountered so as to give a high velocity to the ascending solution, the lead-off from the well was boxed in, so as to make an oil-tight pipe or launder. Unknown to us a certain amount of water had seeped into the walls of the sump from the ground, but this water should have settled to the bottom of the sump.

The high velocity of the ascending solution with the gas stirred the oil and rapid expansion of the gas froze the water to slush ice and this ice came up to the top of the oil. This slush ice in turn was picked up by the pump and forced down the well, and we found the well suddenly frozen in. Our experience told us that a well could not freeze unless some water was at hand, so in looking around for the answer to the difficulty, we found the slush ice in the oil sump. We then installed a steel tank sump and overcame this difficulty.

It is now only necessary to describe our method of bringing in a well, so that the gas production may be controlled without inconvenience or danger to the men who are working around the derrick. Below the derrick floor, a tee is installed on the casing. The horizontal line from this tee has two branches, one to the oil sump with a valve, and the other line, also with a valve, is carried to the separator.

Oil Saver Important

Above the tee on the vertical line is a valve the full size of the casing, and two or three feet above this valve the oil saver is placed. This oil saver in reality is a stuffing box with a rubber packing, so constructed that the gas pressure coming up in the casing expands this rubber cup which closes tight against the drill rod and prevents any oil or gas from escaping upward. This oil saver is the real secret of bringing in wells successfully with a diamond drill. Using a flush joint rod the rod can easily be removed under pressure without any gas escaping around it.

The Dolomite lime, where the heavy gas production is found, is composed of alternate bands of very hard dense limestone and extremely porous limestone. These hard limestone bands act as a cap over the gas production. These lime bands are so extremely hard that drilling them, even with black diamonds, is slow work.

We will now assume that we are drilling the last cap to take us into the heavy gas production. We drill very slowly and carefully, and circulate crude oil as a drilling medium. As we penetrate the last of the cap rock, we get a terrific rush of gas, under 3,500 to 4,000 pounds of pressure. This first rush of gas is so heavy that the drill and the entire derrick will shake with the force, but the oil saver prevents any gas from rushing upward in the derrick, which, if it came might easily asphyxiate the men, and if friction set it afire, would explode and possibly kill all the men around the rig.

Bringing in a well under this tremendous pressure is an extremely ticklish job. The men are working under high tension and not even an electric light is allowed in the derrick for fear that the gas may come through and a single spark is all that is necessary with gas of this type. To give you an idea of the extremely explosive nature of this gas, I wish to remind you that the ordinary gasoline used in automobiles is about 59 degrees Baume gravity, and the gravity of the No. 1 Dalhousie oil when struck was 81 degrees Baume. In other words, this crude oil is 21 degrees Baume, higher than automobile gasoline.

As soon as the gas pressure is struck, we continue rotating the drill on the bottom of the hole. This is done for the purpose of grinding up the larger pieces of limestone, which rush out with the gas from the porous lime formation. If we attempted to withdraw immediately, it is quite possible that these larger particles might plug the bit and block the hole. In the meantime, the valve leading to the sump is closed and the valve to the separator opened and the well is immediately put on production even before drilling operations are completed.

Coming Out of the Hole

After rotating on bottom for several hours or until there is evidence that the broken limestone material has greatly decreased, we start out of the hole. This is an easy matter until we get within about 1,500 feet of the surface when the pressure of the gas just about balances this weight of drill pipe. From this point out, it is necessary to brake the rods to prevent them coming out of the well ahead of this enormous pressure. This is accomplished with a special device known as a rod brake which has been previously installed in the well below the oil saver or stuffing box and above the upper valve. This brake is operated by hydraulic pressure from a pump and is controlled by a valve located off the derrick floor. The remainder of the rods can thus be retarded and controlled in coming out of the hole and this operation is quickly completed.

Only one further step remains. When the diamond bit passes through the upper valve, this valve is closed and the drilling operations are completed. In as much as the diamond bit is somewhat larger than the diameter of the rod, it is necessary to take the oil saver apart in order to bring the bit out of the hole. This can be done quickly and easily, as closing the valve below, removes the gas pressure.

*Manager Spokane office, Sullivan Machinery Co. Paper read before western meeting Canadian Mining Institute, Vancouver, British Columbia.

INTERNATIONAL OUTPUT SHOWS 7 PER CENT RISE

CHATHAM, Ontario, Aug. 19.—The output of International Petroleum Co. for the first six months of 1929 in Colombia and Peru amounted to 15,228,079 bbls., as compared with 14,208,041 in the corresponding period of 1928, an increase of 1,020,038 bbls., or 7 per cent. Shipments amounted to 11,184,649 bbls. in 1929, compared with 10,256,200 bbls. the previous year, an increase of 928,449 bbls., or 9 per cent. The larger part of this increase was in the Peruvian fields, where output rose 955,076 bbls. and shipments rose 1,014,345 bbls.

In the same period 138 producing wells were completed as against 120 in the first six months of 1928. In the Peruvian field 89 new wells were completed as against 66, and in Colombia there were 49 as against 54.

Production is being stepped up in Peru. The output in June, 1929, was 899,251 bbls., showing a daily average of 29,975. Figures now available indicate that the average daily production in July was 30,226 bbls., an increase of 251.

While more work apparently is being done in Peru, it is interesting to note that the average initial production of the wells is greater in Colombia. This is illustrated by the fact that in June the average initial production of 17 Peruvian wells was 179 bbls., while that of five Colombian wells was 809 bbls.

GASOLINE MARKET FIRM IN OKLAHOMA

(Continued from Page 38)

its Okmulgee, Okla., refinery. This leaves about a half dozen small skimming plants in Oklahoma representing less than 10 per cent of the total operating capacity in the State from which straightrun gas oil, distillate and fuel oil are available. The same situation applies in other Mid-Continent areas.

This development in effect means that the percentage yield of these products is being constantly reduced. The products available are largely recylce material obtained from the cracking operations. The only development that will increase yields would be higher prices for all oils used as fuels or lower crude oil prices. For the past two years the relative price situation between crude oil and fuel oil has favored the cracking operation at the refinery. A refiner who sold cracking stock at the prevailing market was sacrificing a product which was worth from 50 to 100 per cent more as a cracking stock. This situation brought the inevitable expansion in cracking facilities and the time has apparently arrived for a more equitable adjustment of crude oil and fuel oil prices.

In regard to the scarcity of distillates suitable for furnace oils which has brought numerous complaints from jobber buyers, one Oklahoma refiner points out that any distillate sold by his company except that obtained from the cracking operation means a loss in his refinery operation. This operator figures that the distillate cut from his skimming operation is worth from 4 to 4½ cents a gallon as cracking stock. A straightrun gas oil is worth around 4 cents a gallon and high gravity fuel oil suitable for cracking is valued around 3 cents a gallon for the cracking operation.

This situation will vary with different refinery operations but it is certain with the least efficient cracking operation overhead cuts and residuum products suitable for cracking are worth more than can be obtained by the sellers on a basis of the present spot market. Those familiar with this situation are of the opinion that higher prices are assured for this fall and winter and this accounts for the reluctance of the sellers to take on long-time contracts at present prices.

Gasoline and Naphtha

Larger refiners in the State reported their Monday sales of U. S. Motor gasoline at 7¾ cents. Two companies did not report any sales. The expected advance to 8 cents has not materialized. It is improbable that any changes will be made unless spot business improves.

The high gravities are sluggish. Although most refiners are endeavoring to maintain the usual differentials for the higher gravities an occasional sale with a price concession is reported. Most of the refiners are confining their output of these grades to their assured domestic customers.

A 50-52 450 naphtha continues to be a premium product. The output goes to Oklahoma blenders, who usually are compelled to pay a U. S. Motor price.

Natural Gasolines

Natural gasoline manufactures are optimistic regarding their product over the remainder of the month. Steady buying with the large orders placed early in the month has kept distress material off the market and prices on Monday and Tuesday were a fourth higher than those prevailing at the close of the market on Saturday.

The low on the A and AA grades on Tuesday was 6⅝ cents and 6½ cents for the remaining grades. Several sales of the A and AA grades at 6¾ cents were reported. The storage of natural gasoline is now said to be largely confined to one manufacturer. This company has been an important factor in the stabilization of the market this year, and it is not expected that it will offer any more material on the spot than can be readily absorbed by the trade.

Kerosene and Distillate

The 41-43 water white grade of kerosene advanced to a low of 5¼ cents with little material available at that figure. Most of the spot sales were being made at 5½ cents. Two of the large refiners advanced their quotation to the trade to 5⅝ cents.

There is considerable inter-refinery buying of kerosene. Several refiners do not refine sufficient kerosene to take care of their requirements and are compelled to buy from time to time from other refiners.

The situation in regard to distillates has been previously explained. An occasional contract based on published quotations is reported, but the quantity of material available either on contract or spot movement is small.

Fuel Oil and Gas Oil

Prices on the high gravity fuel oils are largely nominal. Buyers report that very little fuel oil above 24 gravity is available. Prices on the low gravity grades have not changed. It is contended that some of the low gravity fuel oil which is now in storage in Oklahoma is not strictly specification material and should not be considered a price factor in the general market. This off-specification fuel oil usually is a residuum product from the cracking operation containing small quantities of free carbon.

The range in gas oil prices is also unchanged. Recycle gas oil of low gravity is available as low as 2½ cents. The better grades are in demand at 2¾ and 2⅞ cents.

Lubricating Oils

Steam refined cylinder stocks which have been sluggish for several weeks have been reduced from 1 to 2 cents a gallon. When the prices on these products were advanced early in the summer the supply increased and this fact rather than a decrease in demand is responsible for the lower prices. Bright stocks are strong. Wax prices are unchanged with no improvement in demand.

LEGAL

TRIBAL OSAGE OIL LEASES AT PUBLIC AUCTION SEPTEMBER 20, 1929, BY UNITED STATES GOVERNMENT.

At Pawhuska, Oklahoma, about 20,000 acres will be offered for oil leases in quarter section tracts. Bids will be for bonus in addition to royalties, 25% payable on day of sale, balance in three annual installments, with acceptable security. Within advertised area there are about 9,850 wells producing from one barrel to 100 barrels each, the total daily production for June, 1929, being about 42,000 barrels; also, there are about 30 wells drilling. All lands are now leased separately for gas. Blue print maps of area advertised, showing tracts producing oil or gas, can be had for fifty cents each, also logs of producing oil or gas wells for twenty-five cents each well. Write U. S. Superintendent Osage Agency, Pawhuska, Oklahoma, for maps, logs or other information.

OIL MEN AND BANKERS ACTIVE IN AVIATION PROJECT

Interior of plane on S.A.F.E. lines.

Oil and banking interests make up the directorate of the Southwest Air Fast Express, which has begun passenger-carrying operations with a fleet of eight trimotored planes between eight southeastern cities. Erle P. Halliburton, Los Angeles and Oklahoma manufacturer, is president and active general manager of the line.

The directors are W. G. Skelly, president, Skelly Oil Co.; Waite Phillips, capitalist and oil producer; E. H. Moore, president, Independent Oil & Gas Co.; Harry H. Rogers, president, Exchange National Bank; T. S. Loffland, drilling contractor, and R. H. Berry, banker, all of Tulsa; C. F. Roeser and E. A. Landreth, oil operators of Fort Worth, and E. R. Brown, president, Magnolia Petroleum Co., Dallas.

The cities served are St. Louis, Kansas City, Tulsa, Oklahoma City, Dallas and Fort Worth, with intermediate stops at Springfield, Mo., and Coffeyville, Kans. It is planned eventually to have a line from Detroit to Los Angeles by way of the southwestern route. According to company officials the service will be extended soon to Los Angeles by way of El Paso. Five more planes have been ordered. All ships carry 14 passengers.

CONTROL OF UNIVERSAL CONSOLIDATED ACQUIRED

NEW YORK, Aug. 19.—The Richfield Oil Co. of California and a group of San Francisco and Los Angeles capitalists have purchased a controlling interest in the Universal Consolidated Oil Co., formerly owned by the Crocker interests in San Francisco.

James A. Talbot, chairman of the board of Richfield, succeeds Roy N. Bishop as president of Universal, with other Richfield executive officers taking the places of Crocker representatives on the board. Edward Stearns, associated with Universal for many years, will remain in charge of the company's field operations.

Universal Consolidated Oil is a pioneer in the California oil producing industry, having originally started operations in 1910 in the Lost Hills Field, later extending its activities to other fields, notably Santa Fe Springs. The original Lost Hills property has been a consistent producer for nearly 20 years.

A CANADIAN MERGER

NEW YORK, Aug. 17.—According to Winnipeg reports, consolidation of the Home Oil Co. and the Calgary & Edmonton Corp., is under consideration by directors of these companies. The merger, the report adds, will be on the basis of a stock exchange, two shares of Home Oil Co. for one of Calgary & Edmonton Corp., after Home Oil is split 6 for 1, giving one preferred and five common shares for each share now outstanding.

Home Oil Co. has 880,000 shares of $1 par outstanding, out of total authorized capitalization of 1,000,000 shares of $1 par.

Calgary & Edmonton Corp. has authorized capital of 3,250,000 shares of no par value, of which 2,425,000 are issued and outstanding. The corporation holds mineral rights (excepting gold and silver) on 1,150,000 acres in the Turner Valley and other oil areas.

ISSUE CODE BOOKLET

The American Petroleum Institute has issued a pocket-size booklet of the "National Code of Practices for Marketing Refined Petroleum Products." The booklet of 32 pages contains all the rules of the code with interpretations of meaning.

The booklet is available to the petroleum industry generally. It will be supplied in small quantities without charge to members of regional, state or subcommittees desiring to distribute it for educational purposes. Companies desiring to obtain copies in quantity for distribution to dealers, salesmen and others will be supplied at a quoted low rate.

DIRECTORS TO MEET IN TULSA

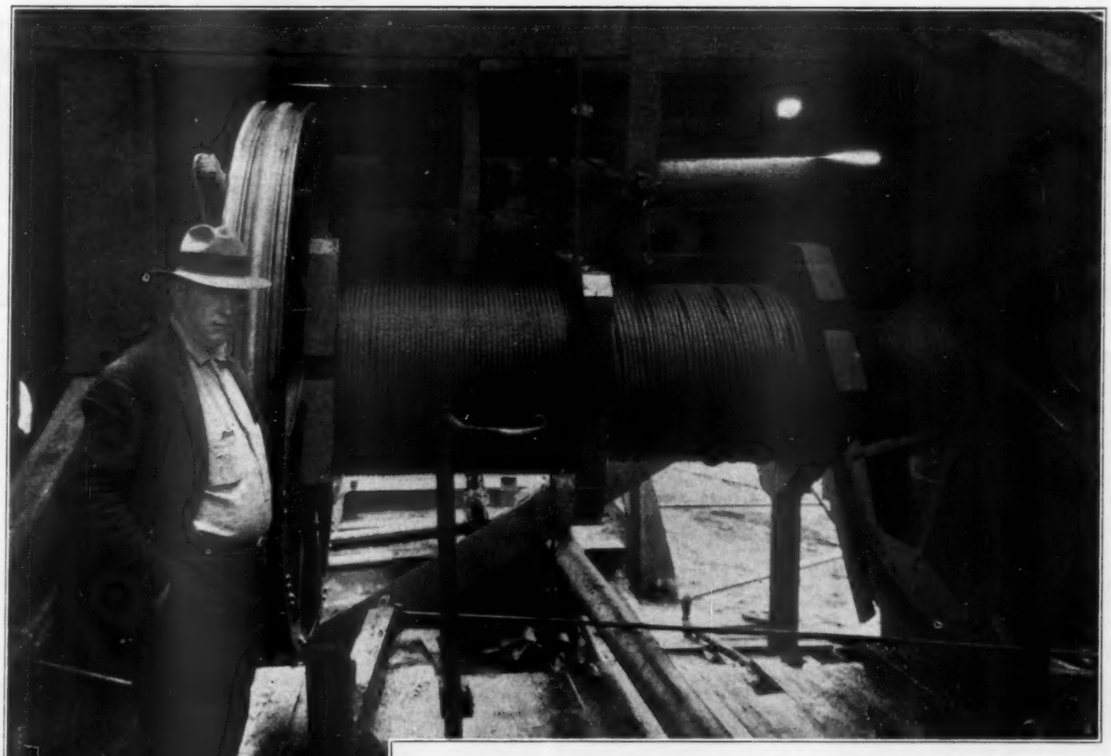
Directors of the American Petroleum Institute will hold their next meeting in Tulsa, October 4, in connection with the International Petroleum Exposition, which opens October 5. It is expected that the Institute's executive committee will meet in the morning in advance of the directors' session. While no program has been announced, it is believed that the Code of Marketing Practices and its enforcement will come up for discussion.

VENEZUELAN OIL CONCESSIONS

NEW YORK, Aug. 19.—Venezuelan Oil Concessions, Ltd., reports for the week ended August 10 production of 125,344 metric tons of crude oil, an average of 17,906 metric tons daily. Production for the previous week was 125,798 metric tons, a daily average of 17,971 tons.

TWO MADE VICE PRESIDENTS

E. G. Diefenbach, vice president of the United Gas Co., Houston, Tex., and E. V. Baker have been elected vice presidents of three United Gas Co. subsidiaries, Greenwood Production Co., Moody Seagraves Gas Co. and Richland Production Co.



Phillips Petroleum Corporation, Hudson No. 3, North Maud Field, with Fred Dickinson, driller, and a UNION Wire Line after 7 months use swabbing and cleaning out.

Union Wire Lines are good-looking after hard use

Union Wire Lines for the oil industry are designed specifically to withstand the severe usage of oil field service. That's why they keep their good looks after long service—and why more and more users of wire rope in the oil industry are becoming UNION boosters.

TRADE MARK

UNION WIRE ROPE CORPORATION
3 North Madison Ave., Tulsa, Okla.

OIL COUNTRY SALES OFFICES
338 Kennedy Bldg., Tulsa

BRANCH OFFICE and WAREHOUSE
Portland, Oregon

FACTORY
21st and Manchester, Kansas City

JARECKI MANUFACTURING COMPANY
Oil Country Distributors – Stocks at All Stores

UNION WIRE LINES

Of Interest to Sales Departments

Soviet Government Increases Sales To German Buyers

By Charles E. Kern

Washington Bureau, The Oil and Gas Journal

WASHINGTON, D. C., Aug. 19. — A considerable oil trade with Germany has been built up by the Soviet government, according to a report received by the Department of Commerce from Berlin. Shipments of oil to Germany from Russia to date are estimated at about 20 per cent of Germany's imports of petroleum and its products against the United States' share of 55 or 60 per cent.

"Since 1923, the peak inflation year in Germany, the Soviet government is reported as having systematically built up a considerable oil trade involving 344,000 metric tons of exports to that country in the fiscal year 1927-28, while establishing there two distributing organizations," the report says.

"First postwar Russian oil imports into Germany (in 1923) resulted from a contract between the then Berlin representation of a Russian syndicate and a German oil-importing company which signed a delivery agreement on about 45,000 tons annually of Russian lubricating oils and kerosene. It was then a monopoly contract, as the Russians had no sales organizations abroad and could thus spare costs of investment in their own direct agency.

"The second big contract by the Russians was in 1924 with a lubricating oil consortium here, which included several German firms. This involved delivery of 40,000 tons of Russian lubricants annually.

"In the same year, the Russian syndicate contracted with the two Berlin firms of the above group for a 40,000-ton delivery of gasoline annually. This contract was cancelled, however, after two years. Cancellation is said to have occurred through the merger in 1929 of certain of the German interests.

"From 1924 onwards competition is said to have begun on the German market between the Russian and other petroleum companies, notably American. In 1925 the Russian syndicate set up its own distributing organization here. The company had an initial capital of 2,000,000 marks."

LOUISIANA CORPORATION ACQUIRES NEW STATIONS

SHREVEPORT, La., Aug. 17.—The Louisiana Oil Refining Corp., which recently sold a large chain of stations in Ohio to the Cities Service Oil Co., is acquiring additional stations in southern states which are closer to the corporation's refinery which is located here.

In explanation of the new plan of operation, M. J. Grogan, president of the corporation states:

"The ever-increasing number of inland refineries being constructed in St. Louis and Chicago districts and anticipated changes in the freight rate structure presented a combination of factors that indicated the wisdom of eliminating Ohio and Kentucky as logical marketing territory for petroleum products manufactured in Shreveport. It was deemed advisable, therefore, to sell our marketing facilities in Ohio and Kentucky.

"Care was taken to secure a purchaser that could utilize the properties to the best advantage and pay for them accordingly, which resulted in a satisfactory transaction for the company. Transfer of the properties was effective June 30, 1929.

"Coincident with decision to sell the Ohio properties, an expansion program was launched having as its objective added sales properties in various southern states embracing territories that can be equipped advantageously from company's Shreveport refineries.

"During the six months ended June 30, 1929, company acquired by purchase or lease three bulk plants and three filling stations in Arkansas; two bulk plants and six filling stations in Louisiana; six bulk plants and 20 filling stations in Mississippi, and two bulk plants and three filling stations in Texas. Company also signed contracts whereby within the next few weeks it will acquire, in addition to the above, 22 bulk plants and 143 filling stations in Mississippi and three bulk plants and three filling stations in Arkansas."

ASPHALT SALES INCREASE

Reports from all parts of the country point to a large increase in the use of asphalt in road building during 1929. Government reports show that the use in some parts of the country is approximately 50 per cent greater than last year.

The General Petroleum Corp. of California, one of the largest manufacturers of asphalt on the West Coast, expects to increase its sales to 25,000,000 gallons during 1929. Special crudes are required to secure the best quality asphalts. The General corporation segregates these crudes at its refineries located in the Los Angeles area. The company is building a new terminal for asphalt distribution at Seattle, Wash., and is also enlarging its terminal at Portland, Ore.

BULK OIL STATION

CHATHAM, Ontario, Aug. 17.—Artic Gasoline Sales Agency is erecting a bulk gasoline and oil station at Lethbridge, Alberta. The plant will include two 15,000-gallon tanks and a warehouse. Similar plants will be erected at Barons and Champion in southern Alberta.

MANUFACTURERS ACTIVE

CHICAGO, Aug. 17. — The large oil burner makers are opening their fall campaign with special offers to induce early action by possible customers. One of the largest oil burner manufacturers in the country is advertising to give each home owner who places an order during August a first filling of 1,000 gallons of fuel oil. Others are making a special price to August buyers with deferred payments, the first payment to be made in October.

The burner manufacturers report that their business during the first six months of the year has been in excess of the first six months of last year and in one case the claim is made that orders booked to July 1 of this year were equal to total sales made last year.

TEXACO IN AUSTRALIA

The Texas Company of California has inaugurated tanker service between its California refineries and its new distributing facilities in Australia. The company has bulk stations completed at the largest ports of Australia and expects to have a large distribution of gasoline and other products throughout the continent.

CALIFORNIA DISTRIBUTION

The Bureau of Mines of the Department of Commerce has just completed a statistical summary of the California petroleum industry covering operations in 1928. The summary was prepared by E. T. Knudsen.

The summary includes data on the production of crude oil, including refinery operations and the distribution of refined products. Copies of the report are available from the Bureau of Mines Office 506, United States Custom House, San Francisco, Calif.

Refiners Extending Market Territories In Sale of Gasoline

The fact that eastern refiners are competing with Mid-Continent refiners in the sale of gasoline for delivery to buyers of the Middle West has resulted in considerable discussion relative to freight rates. Under ordinary conditions refiners observe what are termed "normal" marketing territories in the sale of their products. That is, they attempt to confine their marketing to a territory in which they have equal or lower freight rates than their competitors.

In recent weeks, however, there has been a scramble to obtain new market outlets to take care of excess supplies of gasoline and there has been considerable overlapping of marketing territories. The accompanying table gives the rates in cents per gallon on gasoline and kerosene from three refining centers—Baltimore, New York and Group 3 (Oklahoma and part of Kansas) to representative consuming centers in 10 states of the Middle West and East.

Gasoline from Baltimore and New York and other coastal points has been sold in direct competition with gasoline from Oklahoma and other Mid-Continent points of origin. The comparative freight points of origin. Any extension of territory of a refiner means that the additional freight rate must be absorbed in the f.o.b. price. If the freight rate is too great the net price is lowered to where profitable operation is impossible.

As shown in the accompanying table the dividing line as to freight rates between East Coast and Oklahoma refiners is the eastern part of Indiana and Michigan. West of this line the freight advantage lies with the Oklahoma refiners although as far west as Chicago the rate from Oklahoma is only .56 cents less than the rate from Baltimore.

East of the line the advantage lies with East Coast refiners, including the inland group of refiners in Pennsylvania. It is due to this fact that Oklahoma refiners now have very little business in Ohio. The following table was prepared by the Western Petroleum Refiners Association:

Representative Freight Rates—Cents Per Gallon

To—	(1)	(2)	(3)
Bloomington, Ill.	3.234	3.432	2.343
Chicago	2.937	3.135	2.375
Farrington	3.003	3.201	2.376
Galesburg	3.366	3.564	2.343
Rockford	3.333	3.531	2.376
Springfield	3.300	3.498	2.343
Vandalia	3.366	3.564	2.376
Butler, Ind.	2.640	2.838	3.069
Elkhart	2.739	2.937	2.970
Goshen	2.739	2.937	2.970
Indianapolis	2.706	2.904	2.706
La Porte	2.805	3.003	2.838
Richmond	2.607	2.805	2.970
South Bend	2.739	2.937	2.970
Terre Haute	2.937	3.135	2.574
Cedar Falls, Iowa	3.927	4.125	2.343
Davenport	3.366	3.564	2.343
Des Moines	4.323	4.521	2.178
Dubuque	3.366	3.564	2.376
Fort Dodge	4.719	4.917	2.376
Detroit, Mich.	2.310	2.508	3.696
Flint	2.607	2.805	3.663
Grand Rapids	2.706	2.904	3.498
Kalamazoo	2.706	2.904	3.432
Lansing	2.673	2.871	3.663
Saginaw	2.607	2.805	3.696
St. Paul, Minn.	4.488	4.686	2.772
St. Louis, Mo.	3.366	3.564	1.980
Buffalo, N. Y.	1.914	1.914	3.993
Ashtabula, Ohio	1.848	2.046	3.795
Cleveland	2.112	2.310	3.696
Columbus	2.310	2.508	3.564
Coshocton	2.112	2.310	3.696
Newark	2.211	2.409	3.597
Toledo	2.310	2.508	3.564
Youngstown	1.848	2.046	3.795
Erie, Pa.	1.848	2.046	3.993
Pittsburgh	1.848	2.046	3.993
Ashland, Wis.	4.653	4.851	3.102
La Crosse	4.521	4.719	2.772
Madison	3.597	3.795	2.772
Milwaukee	2.937	3.135	2.607

(1) From Baltimore. (2) From New York. (3) From Group 3.

Who's Who
IN PETROLEUM REFINING AND MARKETING

By C. O. Willson

Seventeenth of a series of articles briefly describing the operations of the major refining and marketing companies in the United States.

Mid-Continent Petroleum Corp.

The Mid-Continent Petroleum Corp. of Tulsa can claim the distinction of being the largest strictly inland refining and marketing organization in the United States. All the companies previously described in this series of articles have one or more refineries located either along the coast or a navigable inland stream.

The only refinery of the Mid-Continent is located at West Tulsa, Okla., and except for occasional sales to export buyers the corporation is dependent on the domestic inland markets to absorb its refinery output. The refinery has a rated capacity of 40,000 bbls. daily and for several years has been the largest refinery in the Mid-Continent Field. The refinery is complete in its operations with Mid-Continent crude oils. In addition, the company has 10 natural gasoline plants in Oklahoma with a capacity of 50,000 gallons daily.

A large part of the refinery growth of the company took place while the company was operated under the name of Cosden & Co. The company at that time depended entirely on tank car sales to domestic jobbers for the movement of its gasoline and lubricating oils. The company had a larger jobber trade than any other refiner in the Mid-Continent and Middle West.

Since the reorganization of the company with the change in name to the Mid-Continent Petroleum Corp. there has been a steady expansion in the corporation's marketing facilities. Over a period of three years the company has acquired several of the largest independent jobbing concerns in the Middle West. These include the Black Hawk Oil Co. of Waterloo, Iowa, and the Leader Oil Co. of Dubuque, Iowa. In addition the company has built a large number of stations.

The corporation has changed the names of these jobbing concerns and all stations are now operated by the Mid-Continent corporation with uniform trademarks for all products. At present the corporation has its own distribution in the states of Kentucky, Indiana, Illinois and Missouri, which constitute the St. Louis division; Iowa, Minnesota, Wisconsin, North Illinois, the Waterloo division and Oklahoma, Missouri and Arkansas, the Tulsa division. The company has over 600 bulk and filling stations in this marketing territory which is conveniently served by the West Tulsa refinery. This station business takes less than half of the refinery output and the corporation still has a large trade among domestic jobbers.

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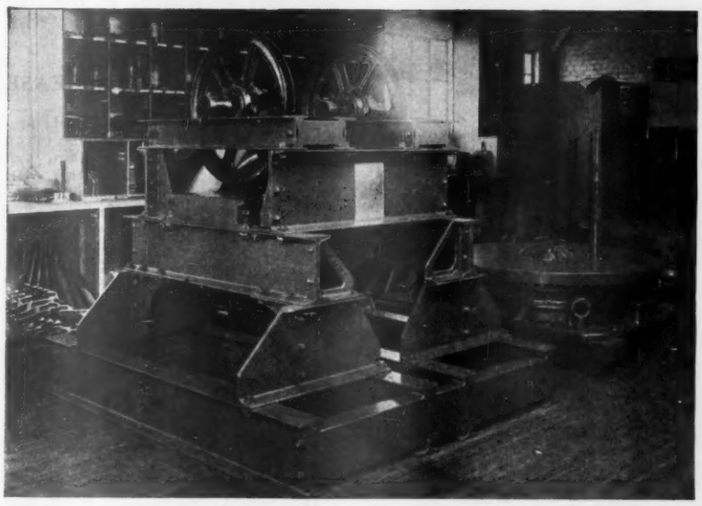

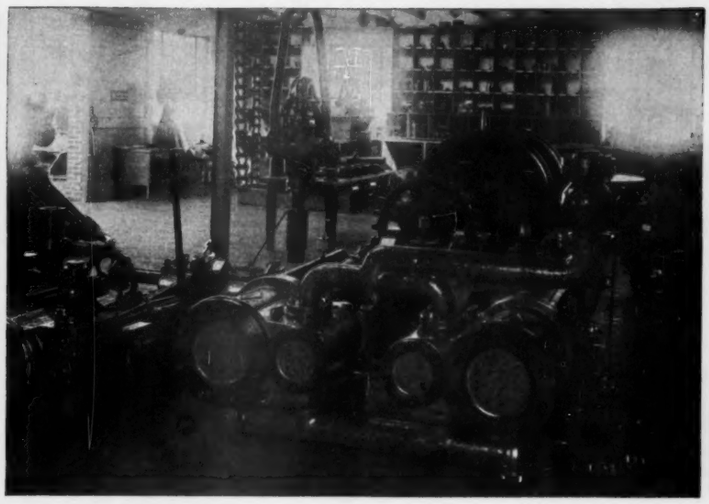

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"WHEREVER THERE'S OIL"

NEW LOCATIONS IN TEXAS PANHANDLE AND NORTH AND WEST TEXAS FIELDS

TEXAS PANHANDLE
Week ending August 14

Carson County

Empire Gas & Fuel Co.'s No. 19 S. B. Burnett estate, at the C of the SE of Section 89, Block 5, I.&G.N. Survey. Gulf Production Co.'s No. 4 E. Cooper, 330 feet south and east of the NW cor. of the SW of Section 5, Block 9, I.&G.N. Survey. Prairie Oil & Gas Co.'s No. 2 J. L. Noel, 330 feet south and east of the NW cor. of the N half of the E half of the SE of Section 198, Block 3, I.& G.N. Survey. Ryan Consolidated Oil Co.'s No. 6 B. F. Block, 330 feet south and 990 feet east of the NW cor. of the NE of Section 111, Block 4, I.&G.N. Survey. Skelly Oil Co.'s No. 19 H. Schafer, 330 feet north and 990 feet east of the SW cor. of the NE of Section 198, Block 3, I.&G.N. Survey. Skelly Oil Co.'s No. 20 H. Schafer, 330 feet north and 990 feet west of the SE cor. of the N half of Section 198, Block 3, I.&G.N. Survey. Skelly Oil Co.'s No. 21 H. Schafer, 340 feet north and 1,540 feet west of the SE cor. of the SE of Section 68, Block 4, I.&G.N. Survey.

Donley County

Southland Oil Co.'s No. 1 W. J. Lewis, at the center of the southeast 40 acres (square) of Section 3, Block 29, H.&G.N. Survey.

Gray County

McMan Oil & Gas Co.'s No. 6 J. H. Palmer, 330 feet south and east of the NW cor. of the east 100 acres of the west 200 acres of Section 31, Block B-2, H.&G.N. Survey. Gulf Production Co.'s No. 2 P. A. Worley and others-A, 330 feet north and 990 feet west of the SE cor. of the SW of Section 36, Block 3, I.&G.N. Survey. Same company's No. 3 P. A. Worley and others-A, 330 feet north and 1,650 feet west of the SE cor. of the SW of Section 36, Block 3, I.&G.N. Survey.

Wheeler County

Vaughan and others' No. 4 M. Ackley, 330 feet north and east of the SW cor. of the NW of Section 4, Block 27, H.& G.N. Survey. Vaughan and others' No. 5 M. Ackley, 330 feet south and east of the NW cor. of the NW of the NW of Section 4, Block 27, H.&G.N. Survey.

NORTH CENTRAL AND WEST TEXAS
Week ending August 14

Baylor County

Fain-McGaha Oil Corp.'s No. 1 Waggoner-FF, 150 feet south and east of the NW cor. of Section 18, Block 6, H.&T.C. Survey.

Clay County

Mid-Continent Holding Co.'s No. 5 Stine and others-A, 750 feet north and east of the SW cor. of Section 7, Parker County School Land, A-374.

Cooke County

Danciger Oil & Refining Co.'s No. 4 Huggins, 150 feet south and 750 feet west of the NE cor. of their 76-acre lease out of the S.P.R.R. Survey No. 9, A-982. Faith Oil Co.'s No. 1 Perkins and others, 150 feet south and west of the NE cor. of the east 81.5 acres of the J. J. Perkins and others' 160-acre tract out of the J. T. Davidson Survey, A-302. Faith Oil Co.'s No. 1 L. Tomlinson, 150 feet north and west of the SE cor. of the L. Tomlinson 50-acre tract out of the Ramon Trevino Survey, A-1,017. Humble Oil & Refining Co.'s No. 6 Poteet, 1,530 feet south and 150 feet west of the NE cor. of the J. L. Stephens Survey, A-1,001. Kewanee Oil & Gas Co.'s No. 8 Timmis-B, 1,980 feet south and 450 feet east of the NW cor. of their 104-acre lease "B" out of the E.T.R.R. Survey No. 5, A-363.

Foard County

A. W. Phillips and others' No. 1 R. T. Owens estate, at the C of the SW of the SE of Section 327, Block A, H.&T.C. Survey. Shell Petroleum Corp.'s No. 1 Thompson, 150 feet south and west of the NE cor. of the S. F. Thompson Survey. Same corporation's No. 1 Ward, 150 feet north and east of the SW cor. of the south 59 acres of the west 119 acres of the north 169 acres of Section 3, G.C.&S.F. Survey, A-117.

Glasscock County

Schermerhorn Oil Co.'s No. 1 Phillips, 330 feet south and 2,310 feet west of the NE cor. of Section 23, Block 33, T-2-S, T.&P. Survey. Sun Oil Co.'s No. 1 Hart Phillips, 330 feet north and 2,310 feet east of the SW cor. of Section 14, Block 33, T-2-S, T.&P. Survey.

Haskell County

Superior Oil Corp.'s No. 7 Reynolds Cattle Co., 1,450 feet south and 490 feet west of the NE cor. of the A. Rodriguez Survey, A-350.

Howard County

Bristow & Merrick's No. 11 Hooks, 625 feet south and 2,015 feet east of the NW cor. of Section 140, Block 29, W.&N.W.R.R. Survey. Group No. 1 Oil Co. and Continental Oil Co.'s No. 9 Settles-A, 200 feet south and 660 feet west of the NE cor. of Section 135, Block 29, W.&N.W.R.R. Survey. Humble Oil & Refining Co.'s No. 4 Clay, 330 feet north and 1,650 feet east of the SW cor. of Section 138, Block 29, W.&N.W. Survey. Sprague Oil Co.'s No. 3 Dora Roberts, 990 feet south and 330 feet east of the NW cor. of Section 156, Block 29, W.&N.W.R.R. Survey.

Irion County

Cromwell et al's No. 1 F. Tankersley, at the C of the SE of Section 1,219, T.C.R.R. Survey.

Mitchell County

Alexander and others' No. 1 Ellwood estate, 1,980 feet south and east of the NW cor. of Section 4, Block 18, S.P.R.R. Survey.

Montague County

Bridwell Oil Co.'s No. 5 Edmondson, 30 feet north and 573 feet west of the SE cor. of the north 15 acres of the Mrs. Edmondson 96.5-acre tract out of the T. R. Edmondson Survey, A-222.

Pecos County

The California Co.'s No. 1 University Land (Landrem), 330 feet north and 1,065 feet west of the SE cor. of Section 12, Block 18, University Land.

Shackelford County

Big State Oil Co.'s No. 10 Russ-Webb, 750 feet north and 2,550 feet east of the SW cor. of Section 17, Block 11, T.&P. Combest Oil Co.'s No. 5 Matthews, 1,470 feet south and 150 feet east of the NW cor. of Section 30, Block 10, E.T.R.R. Combest & Adkins' No. 1 Matthews, 2,490 feet north and 1,050 feet east of the SW cor. of Section 2, Block 10, E.T. R.R. Cranfill & Reynolds' No. 4 Moberly-B, 870 feet north and 1,600 feet west of the SE cor. of Section 48, Block 11, T.&P. Engle Brothers' No. 4 Matthews-B, 475 feet north and 200 feet west of the SE cor. of the NE of Section 32, Block 10, E.T.R.R. Manning and others' No. 5 Newell, 150 feet north and 750 feet east of the SW cor. of the NE 200 acres (square) of Section 11, Block 11, T.&P. Oyster & Rife's No. 1 Davis, at the center of the SE of the NE of Section 5, Block 13, T.&P. Roeser & Pendleton's No. 47 W. I. Cook-A, Section 61, 394 feet south and 1,815 west of the NE cor. of Section 61, Block 10, E.T.R.R. Sedgwick Oil & Gas and S. B. Owens' No. 2 Morris & Buie, 150 feet north and west of the SE cor. of the NW of Section 170, Block 10, E.T.R.R. Tannehill and others' No. 5 Matthews, 1,050 feet north and 150 feet west of the SE cor. of Section 34, Block 10, E.T.R.R.

Stephens County

Hickok Production & Deveopment Co.'s No. 3 Hamil, 880 feet north and 1,320 feet west of the SE cor. of the NE of Section 6, Lunatic Asylum Land.

Throckmorton County

Conway Brothers and Woodson Oil Co.'s No. 4 Overcash, 466 feet north and 166 feet east of the SW cor. of Section 960, T.E.&L.

Wilbarger County

Barkley & Meadows' No. 3 Waggoner-B, 655 feet north and 675 feet west of the SE cor. of the NE of the SW of Section 17, Block 4, H.&T.C. Barkley & Meadows' No. 11 Waggoner-C, 566 feet north and 856 feet east of the SW cor. of Section 5, Block 5, H.&T.C. Clark & Cowden's No. 1 Waggoner, 150 feet south and west of the NE cor. of the W half of the SE of Section 16, Block 4, H.&T.C. Empire Gas & Fuel Co.'s No. 10 Waggoner-A, 230 feet south and 762 feet west of the NE cor. of the SE of the NW of Section 32, Block 4, H.&T.C. Same company's No. 11 Waggoner-A, 100 feet south and 205 feet west of the NE cor. of the SE of the NW of Section 32, Block 4, H.&T.C. Golding-Cochran and others' No. 1 Waggoner-L, 205 feet south and west of the NE cor. of the NW of Section 7, Block 5, H.&T.C. T. Harris and others' No. 1 Waggoner, Section 109, 150 feet south and east of the NW cor. of the east 320 acres of Section 109, Block 14, H.&T.C. Lion Oil & Refining Co.'s No. 1 Waggoner-A, 150 feet south and west of the NE cor. of the SW of the NW of Section 28, Block 4, H.&T.C. Same company's No. 1 Waggoner-B, 200 feet south and west of the NE cor. of the SW of the SE of Section 2, Block 5, H.&T.C. J. E. McAneny and others' No. 1 Waggoner, 205 feet north and east of the SW cor. of the NW of the NE of Section 38, Block 3, H.&T.C. Vernon Wood Oil Co.'s No. 1 Waggoner, 150 feet south and 450 feet east of the NW cor. of the SE of the NW of Section 8, Block 4, H.&T.C.

Winkler County

Humble Oil & Refining Co.'s No. 1 T. G. Hendricks-D, 330 feet north and 2,310 feet east of the SW cor. of Section 41, Block 26, School Land.

Young County

O. Bratcher and others' No. 1 Holt, 150 feet north and east of the SW cor. of the NE of the SE of Section 2, B.B.B. &C., A-1,385. J. D. Carpenter's No. 5 Barrett, 450 feet south and 1,050 feet east of the NW cor. of the M. Barrett 225-acre tract out of the Edward W. Sergeant Survey A-253. J. D. Carpenter's No. 6 Barrett, 150 feet south and 1,350 feet east of the NW cor. of the Barrett 225-acre tract out of the Edward W. Sergeant Survey A-253. J. D. Carpenter's No. 7 Barrett, 150 feet south and east of the NW cor. of the Barrett 225-acre tract out of the Edward W. Sergeant Survey A-253. E. G. Christie's No. 1 Robertson, 150 feet north and west of the SE cor. of Section 406, T.E.&L. Pat Fowler and others' No. 1 R. E. Hill, 1,080 feet south and 1,250 feet west of the NE cor. of Section 195, T.E.&L. Panhandle Refining Co.'s No. 1 Stephens Roach Co., 175 feet north and 150 feet east of the SW cor. of the Stephens Roach Co.'s 110-acre tract out of Section 1, B.B.B.&C., A-35. Panhandle Refining Co. and others' No. 3 Pittman-A, 750 feet north and 250 feet west of the NW cor. of the W. Cantwell Survey A-1,393, and located in the J. L. Elmore Survey A-1,421. A. H. Parks and others' No. 5 Carpenter, 150 feet north and east of the SW cor. of the O. R. Carpenter 100-acre tract out of the Edward W. Sergeant Survey A-253. Perkins and others' No. 1 Clark, 150 feet south and east of the NW cor. of the NE of the NE of Section 208, T.E.&L. Perkins & Cullum's No. 2 Lemmond, 450 feet north and 150 feet east of the SW cor. of the north 80 acres of the J. L. Lemmond tract out of Section 1, B.B.B.&C., A-35. Rannell Oil Co.'s No. 3 J. W. Jack-C, 150 feet north and 450 feet east of the SW cor. of the NE of Section 23, Young County School Land, A-1,284. Richardson & Dresser's No. 1 J. W. Dean, 150 feet north and west of the SE cor. of the NW of Section 19, Young County School Land, A-1,284. Robertson Drilling Co.'s No. 1 J. W. Jones, 800 feet south and 1,100 feet west of the NE cor. of the S. Sallie Survey A-252. United Royalty Co. and others' No. 3 O. R. Carpenter, 150 feet north and 750 feet east of the SW cor. of the E half of the O. R. Carpenter 100-acre tract out of the Edward W. Sergeant Survey A-253. Wise & Jackson's No. 1 McDonald, 700 feet north and 150 feet west of the SE cor. of the west 80 acres of the McDonald 160-acre tract out of Section 1, S.T.R.R., A-68. W. C. Young and others' No. 1 Foster, guardian, 150 feet south and east of the NW cor. of the SW of Section 289, T.E.&L. T. G. Shaw and others' No. 1 M. K. Jarnigan, 1,000 feet northwest of the NW line of the W. J. Orrick Survey A-217 and 4,000 feet southwest of the SW line of Section 3, B.B.B.&C., A-27, and located in the John Conner Survey A-57.

PANHANDLE, NORTH CENTRAL AND WEST TEXAS
Corrections

In Howard County: Amerada Petroleum and Rycade Oil Co.'s No. 2 M. J. Stewart, 200 feet north and 660 feet west of the SE cor. of Section 130, Block 29, W.&N.W.R.R.

In Wilbarger County: Staley-Wynne & Co.'s No. 1 Waggoner-M, 450 feet south and 150 feet east of the NW cor. of the N half of the SW of Section 39, M.E. P.&P.

In Young County: Tucker & Miller's No. 1 L. P. Ward, 450 feet north and 150 feet west of the SE cor. of the L. P. Ward tract out of the L. W. Ross Survey A-1,352.

INTERNATIONAL PETR. AGAIN SHOWS INCREASE

International Petroleum Co., Ltd., produced 15,288,079 bbls. of crude oil, a daily average of 84,133, in Peru and Colombia in the first half of this year, compared with 14,208,041 bbls., or 78,066 daily, in the corresponding period of 1928. This represents an increase of 6,067 bbls. daily. Peruvian production totaled 5,233,057 bbls., or 28,912 daily, and yield in Colombia was 9,995,022 bbls., a daily average of 55,221, comparing with 4,277,981 bbls. in Peru, or 22,505 a day, and 9,930,060 bbls., or 54,561 daily, in Colombia in the first half of last year.

Yield totaled 899,251 bbls., or 29,975 bbls. a day, in Peru in June, while in Colombia the company produced 1,741,115 bbls., a daily average of 58,037 bbls. Rate of yield in Peru in July was 30,226 bbls. a day.

Shipments by the company in the first half of this year totaled 11,184,647 bbls., or 61,793 bbls. daily, compared with 10,256,200, a daily average of 56,353, in the first six months of 1928. Peruvian shipments amounted to 2,311,764 bbls., or 12,773 daily, against 1,297,419, or 7,129 bbls. a day, in first half of last year, while shipments from Colombia totaled 8,872,885 bbls., or 49,021 daily, compared with 8,958,781, or 49,224 bbls. a day, in the first half of last year.

Company completed 138 producing wells, with daily initial yield averaging 385 bbls., in the first six months, comparing with 120 wells with daily initial average yield of 594 bbls. in the same period of 1928. Of the total, 89 completions with average initial yield of 158 bbls. were in Peru, against 66 in the first six months of 1928, with daily average initial yield of 186 bbls., and there were 49 completions in Colombia with daily average initial yield of 801 bbls., compared with 54 completions in the first half of last year, with daily average initial of 1,093 bbls.

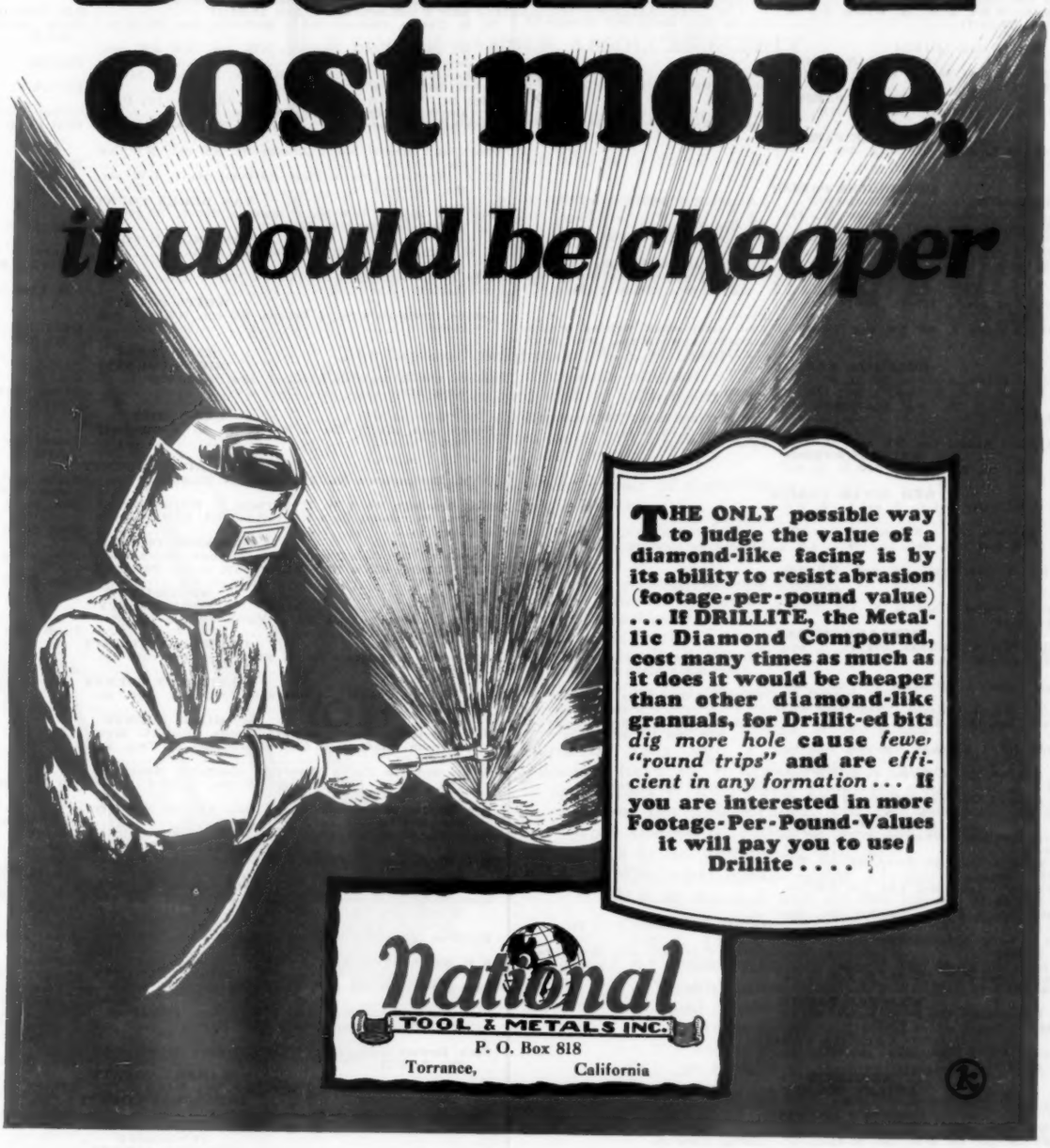
June completions in Peru numbered 17, averaging 179 bbls. initial, and Colombia completions totaled 5, with daily initial average of 809 bbls.

PERMITTEES FORCED TO DRILL

LOS ANGELES, Calif., Aug. 19.—The United States Government, as represented by Secretary Wilbur, may be anxious to prevent the bringing in of any more oil in Kettleman Hills, and willing to let some permittees hold on without drilling, but for some reason this rule does not apply in the Virgin River district of Utah.

Application for extension of drilling time on permits in this shallow field was made recently and promptly refused. Permittees had to hustle around and rush in several outfits to drill fast enough to protect their rights.

If DRILLITE cost more, it would be cheaper



THE ONLY possible way to judge the value of a diamond-like facing is by its ability to resist abrasion (footage-per-pound value) ... If DRILLITE, the Metallic Diamond Compound, cost many times as much as it does it would be cheaper than other diamond-like granuals, for Drillit-ed bits *dig more hole* cause *fewer "round trips"* and are *efficient in any formation* ... If you are interested in more Footage-Per-Pound-Values it will pay you to use Drillite ....

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THREE LAYERS OF DRILLITE
On a Bit Will *Revolutionize* Your Present Ideas About Diamond-like Compounds!

WILDCAT OPERATIONS IN LOUISIANA-ARKANSAS

(Continued from Page 56)

Woodley Pet Co.'s No. 1-B Knight, Sec. 11-15-13 ..... Arranging to deepen; total depth 1,936 ft.

CATAHOULA PARISH

Lochnager Petroleum Co.'s No. 1 Taliaferro, 572 ft. E 396 ft. S C Sec. 26-9-6 ..... Shut down 900 ft.

CLAIBORNE PARISH

Nesbit et als' No. 1 Mosley, 330 ft. S, 330 ft. E, NW cor., Sec. 29-20-5 ..... Drlg. rock 1,320 ft.

El Dorado Chief Oil Co.'s No. 1 Dance, C SW NE, Sec. 27-20-7 ..... S.D. 1,115 ft.

DESOTO PARISH

P. J. Becker, trustee's No. 1 Tull, SW cor. NE NE Sec. 22-12-15 ..... Fishing 7 joints drill stem; T.D. 2,475 ft.

Benedum & Trees Oil Co.'s No. 2 State, 1,700 ft. S and 1,350 ft. W NE cor. Sec. 22-14-12 ..... Drlg. 3,564 ft.

Lide & Ford's No. 1 Nabors, SW cor. SE SW Sec. 32-12-11 ..... S.D. 1,250 ft.

Longstreet Syndicate's No. 1 Ramsey, NE cor. SW NE Sec. 33-13-16 ..... Changing to heavy rig and arranging to sidetrack; T.D. 2,802 ft.

Fair et als' No. 1 Hamilton, 500 ft. N, 300 ft. W, SE cor. SE SE, Sec. 1-12-13 ..... Tested 1,000,000 ft. gas 2,770-79 ft; waiting on 6-in. to set; T.D. 2,790 ft.

Magnolia Petroleum Co.'s No. 1 Anna Mason, 990 ft. S and 330 ft. E NW cor. SW Sec. 27-12-11 ..... Location.

Magnolia Petroleum Co.'s No. 2 W. H. Mason, 330 ft. N and W C, Sec. 28-12-11 ..... Coring blue shale and streaks of lime 2,851 ft.

R. O. Roy's No. 1 Rogers, Sec. 13-13-14 ..... Drlg. 2,625 ft.

FRANKLIN PARISH

Davis and others' No. 1 Moore, 600 ft. W and 200 ft. S NE cor. Sec. 12-11-6 ..... Shut down 1,430 ft.

JACKSON PARISH

George O. Baird's No. 1 Tremont, SE cor. NW SE Sec. 24-16-1w ..... Coring sandy shale 3,460 ft.

LASALLE PARISH

Tunica Pet. Co.'s No. 49 L. & A., 600 ft. S, 300 ft. W, NE cor., Sec. 17-7-2e ..... Cm.d. 6-in. 815 ft; oil sand 816-22 ft.

MOREHOUSE PARISH

J. P. White's No 1 Chess-Wymond, Sec. 32-19-6 ..... Tested S.W. 2,688 ft; drlg. 2,721 ft.

Rainbow Oil Co.'s No. 1 Louisville Cooperage Co., 990 ft. S and E NW cor. NE Sec. 33-22-3 ..... Derrick.

NATCHITOCHES PARISH

S. D. McDaniel's No. 2 Clark & Morse, 800 ft. E and 350 ft. N C Sec. 23-5-6 ..... Tested 1,000,000 ft. gas and salt water 8 ft.; shut down for orders, total depth 2,536 ft.

Nichols & Wilder's No. 1 Clark, 150 ft. W, 250 ft. N, SE cor., Sec. 10-10-8 ..... Derrick.

Robeline Oil & Gas Co.'s No. 1, NE SW Sec. 7-8-9 ..... Drill stem stuck waiting orders; claim show of gas, total depth 3,230 ft.

OUACHITA PARISH

Haynes Oil Co.'s No. 1 Dixie Land Co., 957 ft. N, 3,960 ft. W, SE cor., Sec. 17, in H. R. 54-17-3, Sec. 17-17-3 Location.

Ouachita Natural Gas Co.'s No. 2-B D'Arbonne, SE cor. Sec. 25-19-2e ..... Laying fuel line; arranging to deepen; T.D. 3,349 ft.

Farish & Russell's No. 1 School fee, NE Sec. 16-16-4 .. Drlg. 4,300 ft.

RAPIDES PARISH

Ayers Bros.' No. 1 Wickliff, 2,790 ft. N, 150 ft. E, SW cor., Sec. 9-5n-2e ..... Derrick.

RED RIVER PARISH

W. D. Ball's No. 1 Krumholtz, 660 ft. S, 660 ft. E, NW cor., Sec. 32-14-10 ..... Rigging up.

Benedum & Trees Oil Co.'s No. 1 FranklinRealty Co., 350 ft. E, 350 ft. S, NW cor., Sec. 29-11-9 ..... Fishing for testing tool; T.D. 2,120 ft.

Eylers Oil Co.'s No. 1 Chaffraix, NE cor. NE SW Sec. 30-12-10 ..... Show gas 2,626 ft; bailed dry; drlg. 2,650 ft

D. H. Riddick's No. 1 Johnson, 500 ft. N, 500 ft. W, SE cor., Sec. 17-12-10 ..... Derrick.

RICHLAND PARISH

Austin & McDonald's No. 1 Millsaps, 660 ft. N and 1,980 ft. E SW cor. NW Sec. 17-17-6 ..... Tested 200,000 ft. gas; waiting orders; T.D. 2,510 ft.

Austin & McDonald's No. 2 Millsaps, SW cor. Sec. 17-17-6 ..... Waiting orders; T.D. 2,697 ft.

Austin & McDonald's No. 3 Millsaps, 1,980 ft. S and 660 ft. E NW cor. Sec. 16-17-6 ..... Spudded Aug. 3; cmtd. 12-in. 204 ft; 8-in. 924 ft; drlg. plug.

Austin & McDonald's No. 4 Millsaps, NW cor. Sec. 16-17-6 ..... Location.

Palmer Corp.'s No. 2 Miles, 723 ft. E, 660 ft. S, NW cor. NE, Sec. 13-17-6 ..... Drlg. hard sand 1,609 ft.

United Carbon Co.'s No. 1 Thornby, 660 ft. W, 650 ft. N, SE cor. NW NE, Sec. 12-16-6 ..... Location.

SABINE PARISH

R. L. Gay's No. 1-A Bowman-Hicks, 900 ft. S, 200 ft. E, C, Sec. 34-8-12 ..... Location.

R. L. Gay, trustee's No. 4 Bowman-Hicks, SE cor. NW SE, Sec. 14-7-14 ..... Cmtd. 12½-in. 68 ft; S.D. 250 ft.

R. L. Gay, trustee's No. 1 Long-Bell Lbr. Co., NE cor. NW NW Sec. 26-8-14 ..... Drlg. 2,729 ft.

R. L. Gay, trustee's No. 2 Sabine Lumber Co., Sec. 23-7-14 ..... Drlg. sandy shale 2,768 ft.

A. H. Tarver's No. 1 Long-Bell Lumber Co., NW cor. SW NW Sec. 29-8-13 ..... Small show gas and mud; waiting orders; T.D. 3,535 ft.

A. H. Tarver's No. 2 Long-Bell, 800 ft. N, 800 ft. W, SE cor. SW, Sec. 18-8-13 ..... Rigging up.

WEBSTER PARISH

F. M. Fuller's No. 1 Monzingo, 200 ft. N, 200 ft. W, SE cor., Sec. 27-18-8 ..... Derrick.

WEST CARROLL PARISH

W. F. Hyde, trustee's No. 1 Chickasaw Imp. Co., NE cor. NE, Sec. 24-23-11 ..... Rigging up.

ARKANSAS

ASHLEY COUNTY

J. G. Marcum, tr.'s No. 1 McGarry, Sec. 9-19-4 ..... Derrick.

CALHOUN COUNTY

Phillips Pet. Co.'s No. 1 Freeman-Smith Lumber Co., 300 ft. S, 300 ft. W, NE cor. SW NW, Sec. 25-16-13 .... Coring 2,300 ft.

Ohio Oil Co.'s No. 1 Stout Lumber Co., NW cor. SW Sec. 31-14-12 ..... Drlg. red beds 3,501 ft.

CLARK COUNTY

Wm. Henry, trustee's No. 1 Clark, Sec. 34-9-21 ..... Shut down 1,200 ft.

COLUMBIA COUNTY

Arpeco Syndicate's No. 1 Dennis, Sec. 11-20-23 ..... Drilled 6⅝-in. plug resting on bailing line; T.D. 3,567 ft.

T. R. Brown, trustee's No. 1 Spencer, Sec. 18-18-22 .. Drlg. lime 3,270 ft.

Helena Oil & Gas Co.'s No. 1 Pickler, Sec. 19-19-22 .... Shut down 2,762 ft.

FAULKNER COUNTY

Gold Creek Oil & Gas Co.'s No. 1 Stermer, Sec. 17-4-13.. Cemented 6-in. 3,800 ft.

GRANT COUNTY

Jones & Watkins' No. 1 Meek, Sec. 5-4-11 ..... Shut down 1,400 ft.

Ark.-La. Pipe Line Co.'s No. 2 Bynum, Sec. 12-10-24 .... Dry and abd. 3,125 ft. May 30, 1929; rigging up to deepen.

Blackwell O. & G. Co.'s No. 1 Wyver, C SW SE, Sec. 21-9-25 ..... Drlg. 5,090 ft.

LINCOLN COUNTY

Pine Prairie Oil & Gas Co.'s No. 1 Carter ..... Shut down 2,176 ft.

LITTLE RIVER COUNTY

Grotte and others' No. 1 Allen, Sec. 31-12-31 ..... Shut down 2,941 ft.

LOGAN COUNTY

Arkansas Natural Gas Corp.'s No. 1 Hanna, Sec. 26-7-23 ..... Drlg. caving black shale 3,163 ft.

MADISON COUNTY

Phillips Pet. Co. and F. S. Craver's No. 1, C. Sec. 11-14-28 Rigging up.

OUACHITA COUNTY

Copenhaven and others' No. 1 Warnick, Sec. 2-16-17 ... Spudded Aug. 8; cmtd. 10-in. 81 ft.

Flaucher and others' No. 1 Buck, Sec. 7-15-17 ..... Shut down 2,465 ft.

Geo. Khouri's No. 1 A. Wilson, 150 ft. N, 150 ft. E, SW cor. N½ SW SW, Sec. 24-15-18..... Drlg. 1,815 ft.

Lohman and others' No. 1 Fogle, Sec. 18-14-16 ..... Shut down 1,540 ft.

Sundby and others' No. 1 Farris, SW cor. NW SE Sec. 27-15-15 ..... Standing 100 ft. in fluid; 22 ft. broken sand; W.O.S.R; T.D. 2,093 ft.

Timberlake and others' No. 1 Wright, Sec. 25-14-18 ..... Shut down waiting orders 2,907 ft

Wesson and others' No. 1 Booth, Sec. 13-15-19 ..... Shut down 2,203 ft.

POPE COUNTY

Ark.-La. Pipe Line Co.'s No. 1 McFaddin, Sec. 15-19-21.. Location.

PULASKI COUNTY

Wonder State Dev. Co.'s No. 1 Wilson, 599 ft. W, 24 ft. S, NE cor. NE SW, Sec. 21-2-11 ..... Rig up.

UNION COUNTY

Addie & Modisette's No. 1 Union Sawmill, SW cor. SW SE, Sec. 25-19-12 ..... Location.

Joe Modisette's No. 1 U. S. M. Co., 1,120 ft. E, 200 ft. N, SW cor., Sec. 1-18-14 ..... Spudded Aug. 8; cmtd. 10-in. at 155 ft.

Sam Arrendale's No. 1 Gallagher & Nelson, 200 ft. N and W SE cor. Lot 5, Sec. 18-18-17 ..... S.D. 2,268 ft.

W. M. Coates, trustee's No. 1 McDuffie, Sec. 32-19-17 .. Cmtd. 6⅝-in. 4,005 ft; T.D. 4,076 ft.

O. W. Estes' No. 1 Ramsey, NW cor. NW SW Sec. 24-17-14 ..... Derrick.

E. M. Jones' No. 1 Hardy & Murphy, 216 ft. N, 256 ft. W, SE cor. SW, Sec. 34-19-14 ..... Derrick.

Ohio Oil Co.'s No. 1, Acct. 2, Stout Lbr. Co., 330 ft. S, 330 ft. W, NE cor. NE NW, Sec. 30-16-13 ..... Coring 2,578 ft.

McDonald Brothers' No. 1 Mayfield, Sec. 29-19-15 ..... Shut down 2,210 ft.

Stark and others' No. 1 Ainsworth, NE cor. NW NE Sec. 8-19-16 ..... Derrick.

T. J. Woodley's No. 1 First National Bank, NW cor. Sec. 34-19-18 ..... Derrick.

VAN BUREN COUNTY

Dr. J. S. Martin, tr.'s No. 1 Scanian, 200 ft. S, 200 ft. W, NE cor. SE NW, Sec. 5-9-13 ..... Drlg. 50 ft.

WASHINGTON COUNTY

C. H. Willoughby's No. 1 Jones, Sec. 34-16-30 ..... Cemented 6-in. 1,320 ft.; shut down 1,342 ft.

Lincoln Leaseholding Syndicate's No. 1 Lincoln, Sec. 30-15-32 ..... S.D. 1,040 ft; repairs.

WHITE COUNTY

Letona Syndicate's No. 1 Letona, SE cor. NW SW Sec. 35-9-8 ..... Cmtd. 6⅝-in. 2,975 ft; drlg. 2,980 ft.

EAST TEXAS

BOWIE COUNTY

Hooks Oil & Gas Co.'s No. 1 Lee Roseberry, L. T. King Sur. ..... Temp. abandoned, total depth 3,086 ft.

CAMP COUNTY

Rogers and others' No. 1 Enfelt, R. M. Montgomery Sur. ..... Tested dry at 1,870 ft.; shut down 1,920 ft.

RED RIVER COUNTY

D. M. Buffington's No. 1 Hossier, E. Hughhart Sur. .. Claim show of oil and gas; shut down 1,893 ft.

Shad Harper's No. 1 W. R. Garland, J. Wagley Sur. .... Shut down 1,862 ft.

Johnson Petroleum Co.'s No. 2 Randolph Edward Dean Sur. ..... Shut down 1,440 ft.

SHELBY COUNTY

Chapperall Oil Co.'s No. 2 Holt, Matthew Moore Sur. .. Shut down for orders 3,004 ft.

Gulf Refining Co.'s No. 1 Carraway, J. H. Patterson Sur. ..... Drlg. hard blue shale 5,948 ft.

MISSISSIPPI

ALCORN COUNTY

Alcorn Petroleum Co.'s No. 1 Matthews, SE cor., Sec. 14-2s-7e ..... Drlg. 2,305 ft.

CHICKASAW COUNTY

Hightower & Golson's No. 1 Flemming, NE cor. Sec. 20-13-3 ..... Quicksand 1,240 ft.

CLAIBORNE COUNTY

Ben W. White's No. 1 Shannon, NE cor. Sec. 36-10-4 ..... Fish. for drill stem; T.D. 2,004 ft.

HINDS COUNTY

Harry Gerson's No. 1 Edward House, Blk. 16, West Jackson Subdivision City of Jackson in Twp. 5n, Range 1e ..... Rig up.

Oscar Brown's No. 1 Riverside (formerly Hennessee and others), SE cor. SE SW Sec. 23-16-5 ..... Set 12½-in. 80 ft.; shut down 1,050 ft.

Mrs. Reeder and others' No. 1 State, SE cor. NW NW Sec. 25-6-1e ..... Shut down 2,895 ft.

South. Christian Institute's No. 1 fee, SE SW, Sec. 29-6-4 Derrick.

HUMPHREYS COUNTY

E. C. Steele and others' No. 1 C. B. Box, SE cor. SE NE, Sec. 25-14-4w ..... Set 12½-in. 60 ft.; shut down.

LAUDERDALE COUNTY

Lauderdale Oil & Gas Co.'s No. 1 Lackey, 990 ft. S and E, NW cor. NE, Sec. 2-7-16 ..... Ratholing green shale and chalk 2,060 ft.

Meridian Oil & Gas Co.'s No. 1 Hauser, Sec. 33-8-18 .... Drlg. hard green sand (Eutaw) 1,875 ft.

J. R. Smith Oil Co.'s No. 1 C. F. Craig, Sec. 2-6-14 .... Derrick.

MONROE COUNTY

Amory Development Co.'s No. 1 Bourland, Sec. 2-13-19 S.D.; waiting for 5 3-16-in. csg. 2,580 ft.

Amory Petroleum Co.'s No. 1 Hall, Sec. 8-13-19 ..... Fish. for liner and tools 3,045 ft.

Arkansas Natural Gas Corp.'s No. 1 Rye ..... Fishing drill stem; hard sandy shale 3,668 ft.

Park Bowser and others' No. 1 Cowart, second hole, Sec. 2-12-19 ..... Shut down 20 ft.

WARREN COUNTY

El Dorado Oil Co.'s No. 1 Dornbush, Sec. 8-18-5 ..... Drlg. 1,800 ft.

YALOBUSHA COUNTY

Philp Brothers' No. 1 James, Sec. 20-11-5 ..... Fishing for cores; T.D. 2,937 ft. in hard sandy shale.

TENNESSEE

DECATUR COUNTY

Standard Oil Co. of Louisiana's No. 1 Wyatt ..... S.D; repairing rig and waiting on heavier tools; T.D. 1,244 ft.

Chester County Oil Co.'s No. 1 Montgomery ..... Cemented 6-in. 1,040 ft.

ALABAMA

CHOCTAW COUNTY

Robinson & Greer's No. 1 Douglas Oil Co., 320 ft. N, C, Sec. 15-19-2 ..... Spudded Aug. 12; cmtd. 15½-in. 40 ft; drlg. 210 ft.

LAMAR COUNTY

Briggs & Knapp's No. 1 Wefel, Sec. 25-12-14 ..... Drlg. 900 ft.

SUMTER COUNTY

B. W. Bates' No. 1 fee, Sec. 3-18-1 ..... U.R. surface csg. at 300 ft; to set 6-in.

WASHINGTON COUNTY

S. A. Hobson's No. 1 Hobson Bros., Sec. 9-8-2 ..... Drlg. 1,200 ft.

S. A. Hobson's No. 1 Wilson, Sec. 27-7-1 ..... U.R. at 700 ft.

New —*in* DESIGN —*in* FEATURES —*in* PERFORMANCE

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3. PERFECT RACHETING
4. 30% LESS WEIGHT
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6. SINGLE HANDLE, ABSOLUTE SAFETY
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"The tongs with the hungry bite"

Above are shown W-K-M Petol Pipe Tongs on the test rack. Sizes shown range from 2" to 6", giving an idea of the relative size of each.

W-K-M Petol Pipe Tongs are made in sizes from 1" to 12", and are guaranteed against breakage or spreading of the jaws.

The "newest" thing about W-K-M Petol Pipe Tongs is the increased amount of work a man can and will do with them in a given period of time. Far more important, this, than the first cost of a pair of tongs.

Give a workman a pair of these tongs and he quickly discovers:

(a) That they go on the pipe instantly, and come off instantly. No wrestling required to get them on or off.

(b) That they grip positively, without slipping, and rachet perfectly. No danger of falling because of tong slippage.

(c) That they are absolutely safe, because there is only one handle. No possible way to crush a finger or mash a hand.

(d) That they are humanely light in weight, and do not wear a man down early in the day.

Discovering these things, a workman naturally falls into a faster pace. He doesn't have to struggle with, or guard against, his W-K-M Petol Tong. It's a help to him, not a hindrance. He enjoys his work instead of enduring it—a big difference in the amount he will do.

The inevitable result of introducing W-K-M Petol Tongs on the job is to get lots more work done per dollar invested in labor. That's true Tong economy.

Don't take our word for it, and don't doubt it altogether. Order out a trial set, and if what we say is not true, if you are not completely satisfied with your purchase —you may return them for credit.

W-K-M COMPANY, *Inc.*, Houston, Texas.

Gentlemen: Am interested in your W-K-M Petol Pipe Tongs. Please send field man to demonstrate tongs to us at no obligation on our part.

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Savannah, Ga.
New Orleans (Gretna, La.)
Port Arthur, Texas
Galveston, Texas

WILDCAT OPERATIONS IN OKLAHOMA

(Descriptions are East and North unless marked otherwise)

(Continued from Page 52)

SEQUOYAH COUNTY

Hunt and others' No. 1 Unknown, SE cor. NW SW Sec. 12-12-23 ..... Shut down 1,105 ft.
Buffington and others' No. 1 Melcher, C SW NW Sec. 21-12-24 ..... Shut down 3,000 ft.

WOODS COUNTY

Peerless O. & G. et al's No. 1 Cromwell, SW SE Sec. 14-28-16w ..... Drlg. 100 ft.
E. K. Miller's No. 1 Copenhavers, NW cor. NW Sec. 18-24-13w ..... Rigged up and shut down.
Gypsy-Prairie and others' No. 1 Thompson, SE cor. SW Sec. 16-25-15w ..... Drlg. 5,750 ft.
Sinclair Oil & Gas Co.'s No. 1 Steward, C SW SW Sec. 33-27-16w ..... Drlg. 5,067 ft.

WOODWARD COUNTY

Farrond et al's No. 1 Unknown, SE cor. SW SE Sec. 2-23-17w ..... Shut down 1,387 ft.
Prairie Oil & Gas Co. and others' No. 1 James, NE cor. NW Sec. 23-23-17w ..... Drlg. 4,721 ft.
Billy's Oil Co.'s No. 1 Watt, C SE Sec. 9-23-20w ..... Shut down 3,840 ft
Burgoyne Brothers' No. 1 Merkins, SW cor. SE NE Sec. 15-21-19w ..... Shut down 1,910 ft.

SOUTHERN OKLAHOMA

BRYAN COUNTY

Marshall et al's No. 1 fee, SE NW NW Sec. 26-5s-7 .... Shut down 225 ft.
Wheeler & Wiley's No. 1 Pitts, NW cor. Sec. 36-6s-9e .. Shut down 785 ft.
Yale Oil Syndicate's No. 1 Craige, C NW NE Sec. 36-9s-9e ..... Shut down 1,640 ft.

CARTER COUNTY

L. J. Woodruff's No. 1 Zellnear, NE cor. NW SE Sec. 24-4s-1 ..... Fishing 1,855 ft.
Avon-Dickey's No. 1 Anderson, NE cor. SE NE SE Sec. 32-4s-2 ..... Shut down 420 ft.

CHOCTAW COUNTY

Dean & Adkinson's No. 1 Kent, NW cor. Sec. 6-55-14 .... Location.
Choctaw Petroleum Co.'s No. 1 Wilson, SW cor. SW Sec. 15-6-9 ..... Shut down 1,346 ft.

COTTON COUNTY

Fain & McGaha's No. 1 Mason, NW SW SW Sec. 29-4-11w ..... Drlg. 3,098 ft.
Amerada Pet. Corp.'s No. 1 Dulaney, SE cor. NW NW Sec. 31-4-9w ..... Drlg. 3,212 ft.

JEFFERSON COUNTY

Gypsy Oil Co.'s No. 1 Smith, C SW SE SE Ses. 2-7s-7w .. Location.
Pierce & Brown's No. 1 Fisher, SE SW Sec. 13-6s-7w .. Drlg. 2,110 ft.
J. A. Porter's No. 1 Paddock, NE NW NE Sec. 35-5s-7w .. Drlg. 2,270 ft.

JOHNSTON COUNTY

Smith & Knisely's No. 1 Lane, E half Sec. 29-1-7 ..... Shut down 2,090 ft.

MARSHALL COUNTY

Neif & Sneed's No. 1 Goff, SE NE SE Sec. 21-7s-5 ..... Underreaming 5-in. csg. 525 ft.

McCURTAIN COUNTY

Utopia Pet. Co.'s No. 1 Unknown, SE NW Sec. 14-9s-25 .. Location.
Milton et al's No. 1 Vase, SW NW Sec. 26-6s-21 ..... Shut down 1,005 ft.

MURRAY COUNTY

Spears Drlg. Co.'s No. 1 Labor, NW cor. Sec. 17-1-2e .... 500,000 ft. gas and show of oil 2,185-2,228 ft:; cleaning out 2,-510 ft.; abandoned.

STEPHENS COUNTY

Pace and others' No. 1 Woolsey, SE SW NE Sec. 4-35-6w ..... Drlg. 2,261 ft.
Wirt Franklin Pet.'s No. 1 Spain, SW SE NW Sec. 9-2-5w ..... Sand 3,221-30 ft.; 715 bbls., completed.

TILLMAN COUNTY

Cochran & Ridgway's No. 1 Barnes, C NW NE ..... Cellar.
Landfair and others' No. 1 Smith, SE SW SE Sec. 6-2s-15w ..... Shut down 2,535 ft.
Allen & Treadwell's No. 1 Howell, NW cor. SE Sec. 13-1-17w ..... Shut down 820 ft.

OKLAHOMA PANHANDLE

Skaer's No. 1 Hitch, NW cor. Sec. 25-1-15e ..... Shut down 250 ft.

NORTHERN OKLAHOMA

ALFALFA COUNTY

Company, farm and location—	Remarks:
Smith Bros.' No. 1 Forbes, SE cor. NW NW Sec. 12-27-11w	Fishing 1,250 ft.
Washoma Oil Co.'s No. 1 Acre, SW cor. NE Sec. 14-24-11w	Rig.

BECKHAM COUNTY

Kay and others' No. 1 Martin, C E half E half NW Sec. 32-8-24w ..... Drlg. 405 ft.
F. Coogan's No. 2 Holmesburg, SE NW Sec. 35-9-25w .... Abandoned 2,810 ft.
Producers Exploration Co.'s No. 1 Seldell, SE cor. SW SW Sec. 17-9-22w ..... Shut down 2,402 ft.
Carson and others' No. 1 Danby, SW cor. SE NE Sec. 20-8-22w ..... Shut down 1,547 ft.

BLAINE COUNTY

Lewen and others' No. 1 Unknown, NW cor. SW NW Sec. 27-16-11w ..... Spudded and shut down; renewing leases.
Washoma Oil Co. and others' No. 1 Phillips, C NW SW Sec. 13-19-10w ..... Shut down 2,200 ft.

CADDO COUNTY

Abernathy & Brown's No. 1 Horton, SE cor. Sec. 8-6-13w .. Shut down 535 ft.
W. J. Hartley's No. 1 Galbreath, SE cor. NW SE Sec. 29-5-12w ..... Shut down 3,394 ft.

CLEVELAND COUNTY

Daniels & LeWright's No. 1 Vandever, C SW Sec. 15-7-1w ..... Shut down 3,130 ft.
Phillips Pet. and T. B. Slick's No. 1 Sudick, NE cor. NE Sec. 8-10-2w ..... Drlg. 7,017 ft.

COAL COUNTY

Indian Territory Illuminating Oil Co.'s No. 1 Harris, SE NE Sec. 10-1-11e ..... Abandoned 1,975 ft.
W. E. McGraw's No. 1 King, C SW NE Sec. 11-1-8e .... Fishing 1,585 ft.
Indian Territory Illuminating Oil Co.'s No. 1 Cook, SW cor. NW Sec. 10-1-11 ..... Abandoned 7,890 ft.
J. S. Cosden's No. 1 Richardson, NW cor. NE NE Sec. 6-2-8 ..... Drlg. 2,295 ft.
McGinley & Sigler's No. 1 Willsey, NW cor. SE SE Sec. 7-3-8 ..... Drlg. 2,430 ft.
E. W. Whitney's No. 1 Brown, C SE NE Sec. 10-2-8 .... Shut down 202 ft.

COMANCHE COUNTY

Muse et al's No. 1 Cross, NW SW SW Sec. 4-1-9w ..... Shut down 2,027 ft.
Green and others' No. 1 Wilson, C NE SW Sec. 14-1-12w .. Shut down 4,055 ft.

CREEK COUNTY

Shaffer et al's No. 1 Moore, SW SE SE Sec. 3-18-9 ..... Drlg. 2,620 ft.

CUSTER COUNTY

W. E. Witt's No. 1 Wellman, C SE Sec. 1-14-14w ..... Rig and tools.

GARFIELD COUNTY

E. L. Love and others' No. 1 White, SE cor. NW Sec. 9-24-6w ..... Shut down 5,566 ft.

GRADY COUNTY

J. V. Bailey's No. 1 Hubbard, C NE NW Sec. 1-10-6w ... Spudded and shut down.
J. M. Henry and others' No. 1 Abraham, SE cor. NW Sec. 4-5-8w ..... Rig.

GRANT COUNTY

Bailey's No. 1 Stover, C SW SE Sec. 20-27-5w ..... Rig on ground.
Baucher et al's No. 1 Deadman, SW SE Sec. 12-28-4w .. Drlg. 1,530 ft.
Cowden and others' No. 2 Vollmer, CEL NE SW Sec. 23-25-4w ..... Shut down 5,640 ft.

GARVIN COUNTY

Gardner Pet. Co.'s No. 1 Halverson, SW cor. NE Sec. 8-4-2 ..... Shut down 4,255 ft.

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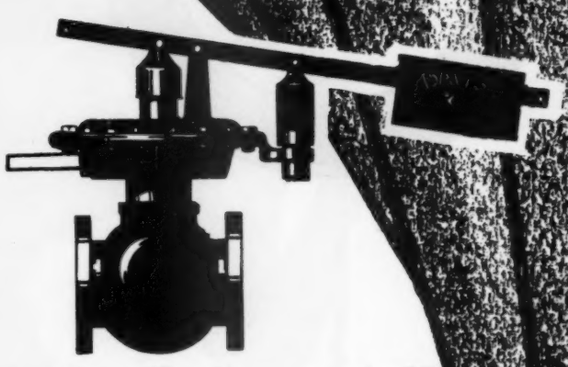

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GREER COUNTY

Helmerick & Payne's No. 1 Henck, NW cor. Sec. 23-6-24w.Shut down 485 ft.
L. T. I. O. and others' No. 1 fee, C SW NE Sec. 17-6-24w ....Underreaming casing 1,903 ft.
S. M. Stauffer's No. 1 Castleman, SW NE Sec. 8-4-25w ..Shut down 625 ft.

HARMON COUNTY

I. T. I. O. Co.'s No. 1 fee, C SW SE Sec. 17-5-24w .....Rig.

HARPER COUNTY

Sinclair Oil & Gas Co.'s No. 1 Howell, C SW SW Sec. 14-26-24w .....Drlg. 1,100 ft.

HASKELL COUNTY

Holden's No. 1 Phillip, SE cor. Sec. 5-9-18w .....Drlg. 1,190 ft.
Marion Oil's No. 1 Sanders, NW NE SW Sec. 10-9-18e..Shut down 2,387 ft.
Sanboise Gas' No. 1 Unknown, SW NW SE Sec. 32-9-21e..Shut down 2,100 ft.

HUGHES COUNTY

Irwin et al's No. 1 Jones, SE NW Sec. 30-5-10 .....Rig on ground.
Canady et al's No. 1 Kanard, NW SW Sec. 20-9-12 .....Rig.
Whitney et al's No. 1 Moore, SE SW Sec. 17-5-9 .....Fishing 3,936 ft.

JACKSON COUNTY

Altus Oil Co.'s No. 1 Northington, NE cor. NE Sec. 4-1-20w .....Shut down 2,020 ft.

KINGFISHER COUNTY

Superior Oil Co.'s No. 1 Story, SE cor. Sec. 25-19-5w ....Fishing 5,725 ft.
Galt Brown's No. 1 Wolf, NW SE Sec. 6-16-7w .....5,200 ft.; 8-in. csg.
McKenna & Crawford's No. 1 Sturgeon, NE cor. SW Sec. 27-16-6w .....Shut down 4,895 ft.

KIOWA COUNTY

Dean & Adkinson's No. 1 Kent, NW cor. Sec. 6-5-14w ..Location.
Hyde et al's No. 1 Jones, SE cor. Sec. 23-3-18w-50 .....Shut down 490 ft.
S. H. Christian's No. 1 Stone, SE cor. Sec. 18-7-18w ....Rig on ground.
Merrick Oil Co.'s No. 1 Kelly, NW cor. SE Sec. 20-7-17w..Shut down 1,035 ft.
McWharter and others' No. 1 Sherwood, CWL NW NE Sec. 2-5-17w .....Shut down 1,100 ft.

LEFLORE COUNTY

Red Bank Oil Co.'s No. 1 fee, SE SW NE Sec. 23-9-24 ..Drlg. 4,300 ft.

LATTIMER COUNTY

Limestone O. & G. Co.'s No. 1 Shaw, NW cor. NE NW Sec. 23-5-18e .....Rig.
Limestone Oil & Gas Co.'s No. 1 McMurray, SW cor. SW Sec. 15-5-18 .....Fishing 3,954 ft.

LINCOLN COUNTY

Morgan & Flynn's No. 1 Johnson, SW NE Sec. 1-16-5...Rig on ground.
Phillips Pet. Co.'s No. 1 Stephens, SE cor. NW Sec. 29-12-3 .....Rig.

LOGAN COUNTY

Haley & Smith's No. 1 Guier, SE cor. SW Sec. 33-18-3w..Shut down 3,970 ft.

McINTOSH COUNTY

Western Natl. Gas's No. 1 Wells, CEL SE NW Sec. 15-11-17 .....Drlg. 325 ft.
Holden's No. 2 Phillips, C SE SE Sec. 3-9-18e .....Drlg. 1,190 ft.
Spring Valley Oil Co.'s No. 1 Carr, SE cor. NE NW Sec. 16-10-13e .....Shut down 2,508 ft.
Patterson and others' No. 1 Smith, SW cor. NW SE Sec. 32-9-16 .....Shot 240 qts. 5,446-5,559 ft:; shot went off up hole; fishing.

MAJOR COUNTY

Earl and others' No. 1 Turner, C NE NE Sec. 23-20-14w..Rig.
Wilson and others' No. 1 Unknown, NE cor. NE Sec. 4-23-16w .....Shut down 510 ft.

MUSKOGEE COUNTY

Sioux Oil Co.'s No. 1 Unknown, NW SE Sec. 21-11-19 ...Shut down 300 ft.
Cooper-Badget's No. 1 Young, NW NE NE Sec. 7-12-20e..Shut down 50 ft.

NOBLE COUNTY

Blackwell O. & G. Co.'s No. 1 Foster, C NE NE NW Sec. 8-22-1w .....Shut down 150 ft.
Gypsy Oil Co.'s No. 1 Bailey, C NE NE Sec. 24-22-1e ..Drlg. 3,860 ft.
Magnolia Petroleum's No. 1 King, C SE SW Sec. 26-20-1w.Drlg. 3,455 ft.

WILDCAT OPERATIONS IN KANSAS

(Descriptions are East unless otherwise marked)

(Continued from Page 54)

ELLIS COUNTY

Phillips Pet. Co.'s No. 1 Harjo, SE NW Sec. 9-13-19w ...Drlg. 710 ft.
Mid-West Exploration's No. 36 Berens, C SE NW Sec. 12-13-16w .....Rig.
Phillips Pet. Co.'s No. 1 Harder, NE SW Sec. 8-12-17w..Shut down 3,726 ft.
Byrens et al's No. 1 Fisher, NW SE Sec. 4-11-20w .....Shut down.
Rush Oil Co.'s No. 1 Gatewood, NW cor. NW Sec. 4-15-20w .....Fishing 2,555 ft.
Finney & Weiner's No. 1 Freeman, SE cor. SW Sec. 24-15-20w .....Spudded and shut down.
Phillips Pet. Co.'s No. 1 Schneider, NW cor. Sec. 30-12-17w .....Drlg. 3,429-39 ft.; 108 bbls. in 8 hrs.; shut down.
Burger et al's No. 1 Hadley, SW cor. SW NW Sec. 20-11-17w .....Drlg. 3,408-40 ft.; 2,000 ft. oil in hole; testing.

ELLSWORTH COUNTY

Tatlock et al's No. 1 Sackem, C SW SE Sec. 25-17-9w....Drlg. 340 ft.
The Texas Company's No. 1 Sherman, NE SW Sec. 16-17-6w .....Drlg. 2,100 ft.

GRAHAM COUNTY

Gulf Coast Oil Co.'s No. 1 Johnson, C S half Sec. 27-8-25w .....Drlg. 4,000 ft.

GREENWOOD COUNTY

F. Konkay et al's No. 1 Rock, NW NE NE Sec. 7-27-12..Spudding.
Ward & McGinnis' No. 1 Anderson, NE NW SW Sec. 13-25-10 .....Drlg. 1,385 ft.

HARPER COUNTY

Tom Slick Oil Co.'s No. 1 Miller, SE cor. Sec. 13-34-8w .....Drlg. 4,400 ft.
Tom Slick Oil Co.'s No. 1 Thompson, NW cor. Sec. 19-32-6w .....Drlg. 4,510 ft.
Independent & Reserve Oil Co.'s No. 1 Moulds, C NE Sec. 7-24-1w .....Fishing 2,600 ft.

HARVEY COUNTY

Liggett et al's No. 1 Regier, C SE NW SE Sec. 2-23-3w..Rig.
Payne and others' No. 1 Ady, NE NW SE Sec. 16-24-1 ....Drlg. 1,960 ft.
Deering-Marshall's No. 1 Dick, Sec. 4-25-2w .....Drlg. 2,935 ft.
McCulloch et al's No. 1 Prouty, NW cor. SW Sec. 3-23-1w .....Fishing 2,020 ft.
Roth & Parrent's No. 1 Brombrowsky, NW cor. Sec. 26-22-1e .....Drlg. 2,825 ft.
Mrs. Gay et al's No. 1 Grove, C NW NE NW Sec. 29-23-1w .....Shut down 3,102 ft.
Jolly & Ogg's No. 1 Randall, NE cor. NE Sec. 11-24-1w ..Shut down 3,444 ft.
Rosenthal et al's No. 1 Ingalls, C NW SW Sec. 24-23-3w..Drlg. 3,425 ft.
Jolly & Ogg's No. 1 Hupp, SE cor. NE Sec. 22-23-1w ....Fishing 3,220 ft.

HODGEMAN COUNTY

Phillips Pet.'s No. 1 Hausman, NW NE Sec. 30-22-22w ..Drlg. 1,445 ft.

JEFFERSON COUNTY

Wichita Oil Co.'s No. 1 Simpson, NW cor. SW SW Sec. 19-10-17 .....Rigged up and shut down.

KIOWA COUNTY

British-American's No. 1 Woodward, NE cor. Sec. 35-27-17w .....Underreaming 6-in. csg. 4,320 ft.
British American-M. M. Valerius, NE cor. Sec. 35-27-17w..Location.

KINGMAN COUNTY

Gypsy Oil Co.'s No. 1 Kincaid, NE cor. NW Sec. 18-29-5w .....Siliceous lime 4,513-23 ft.; fishing.

LANE COUNTY

Robinsen's No. 1 Dickerson, Sec. 11-18-27w .....8-in. csg. 2,625 ft.
Blankenship Pet. Co.'s No. 1 Schaeffer, NE cor. NE

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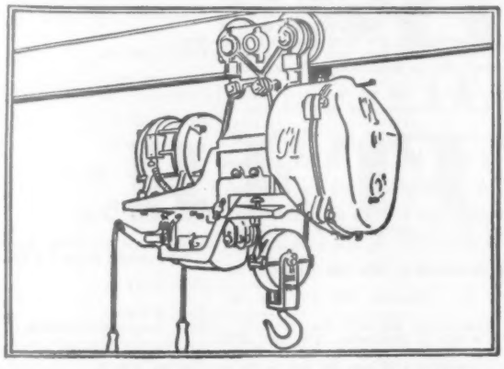

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Sec. 24-16-28w .....Spudded and shut down.

LYON COUNTY

Blair et al's No. 1 Martindale, C NW NE NE Sec. 27-21-11 .....Drlg. 1,004 ft.
Gordon & Stats' No. 1 Murphy, NW NE Sec. 32-21-11 ....Drlg. 1,250 ft.

MARSHALL COUNTY

Irwin et al's No. 1 Cooper, NE NW Sec. 10-3-7e .....Shut down 2,240 ft.

MARION COUNTY

American O. & R. Co.'s No. 1 Urie, NW SW NW Sec. 10-17-2 .....Rig.
Empire's No. 1 Reising, NE NW NW Sec. 34-20-2 .....Rig.
Davis et al's No. 1 Bartel, SE NE Sec. 1-19-1 .....Rig.
Shell Pet. Corp.'s No. 1 Scully, NW NE Sec. 34-18-2e ....6-in. csg. 2,640 ft.
Hobworth et al's No. 1 Skiles, SE NW NW Sec. 30-21-3e..Drlg. 3,084 ft.
General Utilities Co.'s No. 1 Propp, NE cor. SE SW Sec. 3-19-4e .....Hole full water 2,790-95 ft.; abandoned.

McPHERSON COUNTY

Lario et al's No. 1 Diener, SE SW Sec. 10-20-1w .....Spudding.
Perry et al's No. 1 Wade, C SE Sec. 20-19-4w .....Rig.
E. W. Mariand's No. 1 Swanson, NE SW NE Sec. 36-18-4w.Drlg. 3,400 ft.
Slick, Pryor & Lockhart's No. 1 Gratton, C NE NW NW Sec. 34-20-3w .....Fishing 2,150 ft.
Helmerich & Payne's No. 1 Klassen, SE NE NE Sec. 14-21-1w .....Shut down 2,390 ft.
Helmerich & Payne's No. 1 Rosen, NE cor. SE SW Sec. 25-21-2w .....Hole full water 3,480-3,506 ft.; abandoned.
McPherson Gas Co.'s No. 1 Chinberg, NW cor. Sec. 18-19-2w .....6-in. csg. 2,996-3,040 ft.; show water.
McPherson O. & G. Co.'s No. 1 Rasmusson, SW cor. Sec. 8-18-3w .....Drlg. 2,490 ft.
Ted Washabaugh's No. 1 Vosshell, NE cor. NE Sec. 9-21-3w .....Fishing 3,301-04 ft.; show of oil; skid rig.
J. H. Tatlock's No. 1 Hayer, C SW NE Sec. 32-20-1w ..Wilcox 3,474-79 ft.; water; shut down.

MORTON COUNTY

White & Cheney's No. 1 Unknown, NE cor. Sec. 11-34-42w .....Rig on ground.

NESS COUNTY

E. W. Marland, Inc.'s No. 1 Moses, NE SE Sec. 7-18-25w..Drlg. 3,165 ft.

OSAGE COUNTY

Goebel-Bending's No. 1 Bartee, C SW SW Sec. 28-17-15..Shut down 1,190 ft.

OSBORNE COUNTY

Phillips Pet. Co.'s No 1 Greive, NW SE NE Sec. 6-7-12w..Drlg. 1,934 ft.
Mid-Kansas' No. 1 Boyce, SE cor. NW Sec. 18-6-13w ..Drlg. 1,890 ft.
Trees Oil Co.'s No. 1 Payenter, NE cor. SE SE Sec. 22-6-15 .....Drlg. 3,315 ft.

PAWNEE COUNTY

F. C. Troupe's No. 1 Lovett, CEL NE NE Sec. 31-21-16w.Shut down 1,560 ft.

PHILLIPS COUNTY

Watsonian-British American's No. 1 Wellman, C SW SW Sec. 34-2-19w .....Drlg. 3,645 ft.

PRATT COUNTY

O'Haver & Jones' No. 1 Lunt, C SW NW Sec. 15-28-14w..Drlg. 3,020 ft.

RENO COUNTY

Wilson et al's No. 1 McPhaeters, C S half NW Sec. 22-26-8w .....Rig.
Witt's No. 1 Olsen, C SE NW Sec. 14-22-6w .....Rig.
Empire O. & R. Co.'s No. 1 Henderson, SW cor. Sec. 35-25-4w .....Abandoned 4,310 ft.
Skelly Oil Co.'s No. 1 Birkett, NE SW Sec. 30-24-7w ....Drlg. 2,975 ft.
Milmar Oil Co.'s No. 1 Strickley, SW cor. SW Sec. 17-26-5w .....Drlg. 3,315 ft.

RICE COUNTY

Derby Oil Co.'s No. 1 Johnson, C NW NE SE Sec 24-20-6w .....Drlg. 300 ft.
Milmac's No. 1 Cain, C SE Sec. 29-19-7w .....Spudding.
Allison & Fitzwilliams' No. 1 Poland, NE cor. SW NE Sec. 36-19-8w .....Cellar.
Higgins & Steinbuchel's No. 1 Shurr, NE cor. SW Sec. 21-20-10w .....3,278-80 ft.; 100 bbls. showing; testing.

RILEY COUNTY

Grey et al's No. 1 Smith, NE SE Sec. 30-6-6 .....Drlg. 1,850 ft.
Derby & Shaw's No. 1 Lindstrom, NE cor. Sec. 32-7-5e ..Drlg. 1,500 ft.

RUSSELL COUNTY

Prairie Oil & Gas Co.'s No. 1 Brungardt, C NW SE NW Sec. 31-12-13w .....Rig.
Empire and Prairie's No. 1 Bocks, C SE NE NE Sec. 23-15-14w .....Drlg. 375 ft.
Allison & Fitzwilliams' No. 1 Mohenny, NW SE Sec. 5-14-12w .....Drlg. 3,385 ft.

ROOKS COUNTY

Kruger et al's No. 1 Stels, NW SE SW Sec. 12-9-16w ..Shut down 50 ft.
Burford-Brim's No. 1 Toxa, Sec. 22-9-17w .....Spudded; shut down.

RUSH COUNTY

Sinclair Oil & Gas Co.'s No. 1 Seur, C SW NW NW Sec. 8-18-17w .....Drlg. 3,730 ft.
Danciger Oil Ref. Co.'s No. 1 Swindt, SW cor. Sec. 22-17-17w .....Drlg. 3,700 ft.
Central Commercial Oil Co.'s No. 1 Brock, SE cor. SW SW Sec. 12-17-16w .....Shut down 50 ft.
Danciger Oil Ref. Co.'s No. 1 Pivonka, NE cor. SW NE Sec. 17-19-17w .....Drlg. 3,740 ft.

SALINE COUNTY

Dixie Oil Co.'s No. 1 Thorstenburg, NW NE Sec. 10-16-3w .....Rig.
Austin et al's No. 1 Olsen, NW SW SE Sec. 10-15-4w ..Spudding.
Templeman's No. 1 Lanbengager, C SW Sec. 20-15-5w ..Drlg. 2,265 ft.
Kinney-Coastal's No. 1 Hughes, NW NE NW Sec. 20-13-4w .....Drlg. 200 ft.
Dixie Oil Co.'s No. 1 Muir, C SW SE Sec. 6-15-2w .....Shut down 3,126 ft.
Boyle et al's No. 1 Miller, SW cor. SE Sec. 21-16-1w ....Abandoned 3,250 ft.
Kenney-Coastal Oil Co.'s No. 1 Beal, C NW Sec. 23-14-5w .....Abandoned 4,005 ft.

SEDGWICK COUNTY

Fleeger D. F.'s No. 1 Ottaway, C SW NW Sec 16-28-2w..Rig.
C. B. Davis' No. 1 Kinkead, NE cor. Sec. 14-27-1 .....Drlg. 2,100 ft.
Mariand and Amerada's No. 1 Sensroth, NW cor. Sec. 25-28-4w .....Drlg. 965 ft.
Boyle's No. 1 Sandusky, NW NE SE Sec. 34-26-1w ....Drlg. 1,175 ft.
Lario O. & G. Co.'s No. 1 Calkins, SW cor. SE Sec. 7-27-2e .....Drlg. 2,735 ft.
E. W. Mariand's No. 1 Huggins, SE NW SW Sec. 30-27-2 .....Drlg. 1,700 ft.
Johnson & Marshall's No. 1 Roy, NE cor. SE SW Sec. 23-29-1w .....Shut down 3,020 ft.
Lario O. & G. Co.'s No. 1 Teachorff, NE cor. SW Sec. 27-29-1w .....Drlg. 2,740 ft.
Kyle et al's No. 1 Pinney, SW NW SE Sec. 29-28-1w ....Shut down 50 ft.
Simmons & Canary's No. 1 Scott, NE NW NE Sec. 22-26-1e .....Viola 3,430-50; hole full water; total depth 3,625 ft.; abandoned.
T. B. Slick's No. 1 Rosenhagen, SW SE NE Sec. 33-27-4w .....Drlg. 4,317 ft.
Hammond & Stout's No. 1 Roeder, SW NW Sec. 23-27-2w .....Drlg. 3,950 ft.
Twist et al's No. 1 Armstrong, NE NW Sec. 28-26-1e ...Rig; spud.; shut down.
Barnett O. & G. Co.'s No. 1 Davidson, NW cor. NW SW Sec. 27-26-1e .....Shut down 2,668 ft.
Kellar & Lewis' No. 1 Buckles, NW cor. SE Sec. 3-28-1w..Fishing 975 ft.
Twist et al's No. 1 Joseph, CNL SW SE Sec. 4-25-1w ....Shut down 1,980 ft.
Miller Wents' No. 1 Shaffer, NE cor. NW Sec. 9-27-2w ....Fishing 3,937 ft.
Washabaugh et al's No. 1 Harrison, NW cor. NE NE Sec. 3-26-2w .....Drlg. 2,600 ft.
LaFont et al's No. 1 Carlton, C SE SE SW Sec. 24-28-1e..Shut down 1,685 ft.

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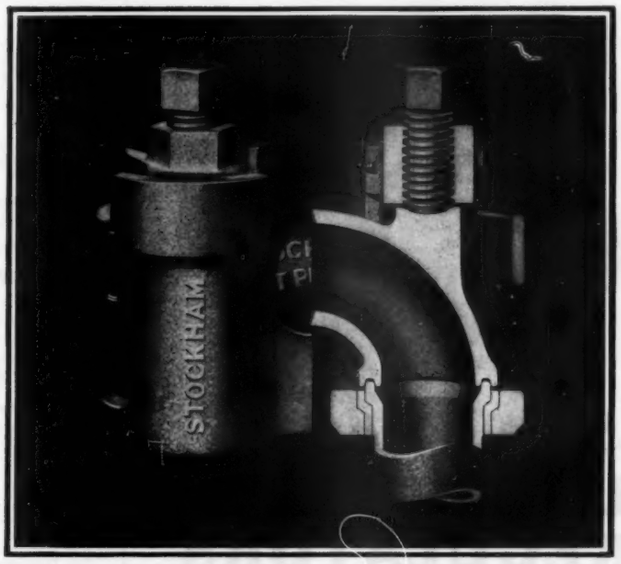

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SHERMAN COUNTY

A. L. Henson et al's No. 1 Murry, NE cor. SE NW Sec. 22-7-40w .....Shut down 3,035 ft.

STEVENS COUNTY

Trees Oil Co.'s No. 1 Thompson, C NE SW Sec. 3-35-38w..Shut down 500 ft.
W. Sidwell et al's No. 1 Kelly, SW cor. NE Sec. 16-34-38w .....Shut down 1,320 ft.

SMITH COUNTY

Phillips Pet.'s No. 1 Clydesdale, SE NW Sec. 23-5-14w ....Drlg. 2,175 ft.

SUMNER COUNTY

E. K. Carey & Larado Oil Co.'s No. 1 Welsch, SW SE Sec. 9-34-1e .....Drlg. 1,975 ft.
Mid-Continent Pet. Corp.'s No. 1 Clark, SE cor. Sec. 31-34-3w .....Drlg. 3,210 ft.
Shell Pet. Corp.'s No. 1 Armstrong, NE cor. Sec. 12-33-1e.Spudding.
Gypsy & Blankenship's No. 1 Robeck, C SW SW Sec. 27-34-4w .....Drlg. 4,865 ft.
Davidson et al's No. 1 Strickland, SW cor. SE Sec. 12-35-1w .....Rig.

TREGO COUNTY

Prairie Oil & Gas Co.'s No. 1 Kutina, C NE SW NE, Sec. 29-15-21w .....Rig.
Phillips Pet. Co.'s No. 1 Spits, SE cor. Sec. 24-12-25w....Rig on ground.
Mid-Kansas' No. 1 Ridgeway, NE SW Sec. 28-12-21w ....Drlg. 1,120 ft.
Day et al's No. 1 Gugler, SW NE NE Sec. 36-12-21w .....Shut down 50 ft.
Day et al's No. 1 Unknown, NE NW SW Sec. 2-11-21w ....Drlg. 2,910 ft.

WASHINGTON COUNTY

McCool & Vincent's No. 1 Linn, NW cor. NE Sec. 27-4-3..Drlg. 2,300 ft.

WALLACE COUNTY

Morton & Entyre's No. 1 Parker, SE cor. NW SW Sec. 20-13-41w .....Rig.

WILDCAT OPERATIONS IN NEBRASKA

FRANKLIN COUNTY

U. R. Drlg. Co.'s No. 1 Brunkle (twin well), C NW SW NE Sec. 2-3n-13w .....Rig.

CHASE COUNTY

Chase Pet. Co.'s No. 1 Ingold, C NE Sec. 24-6n-38w ....Total depth 4,050 ft.; cementing 6-in. csg.

FURNAS COUNTY

Southwestern Pet. Corp. of Nebraska's No. 1 Montague, SE SW SW Sec. 28-1n-22w .....Drlg 1,750 ft.
Graham Bros.' No. 1 Edwards, NW SW Sec. 13-2n-22w..Shut down 2,150 ft.

WEBSTER COUNTY

Mid-States Exploration Co.'s No. 1 Platt, C SE one-half Section 3-1n-11w .....Shut down 555 ft.

WATER SITUATION IN HENDRICKS POOL

Following is a bottom hole water report on the Hendricks Pool, Winkler County, Texas, for a 24-hour gauge ending 7 a.m. July 4, 1929:

Company, Well No.—	Sec.	Blk.	Water pct.
Amerada Pet. Corp.:			
1-Cowden	3	B-12	80
3-Cowden	3	B-12	75
2-Cowden	3	B-12	85
1-Leck	3	74	90
2-Leck	3	74	17
Atlantic O. P. Co.:			
3-B Hendricks	44	26	30
1-Leck	3	74	75
1-D Hendricks	29	B-5	15
2-D Hendricks	29	B-5	35
1-E Hendricks	41	B-5	70
2-E Hendricks	41	B-5	60
7-E Hendricks	41	B-5	12
4-E Hendricks	41	B-5	95
5-E Hendricks	41	B-5	20
6-E Hendricks	41	B-5	15
1-F Hendricks	40	26	95
2-F Hendricks	40	26	100
8-F Hendricks	40	26	99
3-F Hendricks	40	26	95
4-F Hendricks	40	26	75
10-F Hendricks	40	26	96
5-F Hendricks	40	26	99
7-F Hendricks	40	26	99
11-F Hendricks	40	26	99
6-F Hendricks	40	26	87
9-F Hendricks	40	26	90
12-F Hendricks	40	26	92
1-G Hendricks	46	26	95
5-G Hendricks	46	26	97
2-G Hendricks	46	26	92
7-G Hendricks	46	26	85
4-G Hendricks	46	26	98
6-G Hendricks	46	26	97
California Co.:			
1-A Hendricks	29	B-5	70
2-A Hendricks	29	B-5	91
7-A Hendricks	29	B-5	81
8-A Hendricks	29	B-5	83
4-A Hendricks	29	B-5	55
5-A Hendricks	29	B-5	72
6-A Hendricks	29	B-5	81
Cranfill & Pickrell:			
1 Hendricks	47	26	15
Cranfill & Reynolds:			
1-A Hendricks	35	B-5	12
2-A Hendricks	35	B-5	65
1-B Hendricks	35	B-5	3
2-C Hendricks	33	26	95
1-E Hendricks	33	26	65
4-E Hendricks	33	26	20
Eastland Oil Co.:			
1-A Hendricks	35	B-5	4
2-A Hendricks	35	B-5	8
1-C Hendricks	35	B-5	28
El Paso Prod.:			
1 Hendricks	30	B-5	2
Gulf Prod. Co.:			
1 Hendricks	34	B-5	20
2 Hendricks	34	B-5	8
3 Hendricks	34	B-5	20
6 Hendricks	34	B-5	35
12 Hendricks	34	B-5	20
26 Hendricks	34	B-5	14
4 Hendricks	34	B-5	60
7 Hendricks	34	B-5	10
9 Hendricks	34	B-5	55
5 Hendricks	34	B-5	42
8 Hendricks	34	B-5	30
11 Hendricks	34	B-5	16
25 Hendricks	34	B-5	14
17 Hendricks	45	26	42
20 Hendricks	45	26	28
29 Hendricks	45	26	50
30 Hendricks	45	26	50
24 Hendricks	45	26	60
19 Hendricks	34	B-5	60
22 Hendricks	34	B-5	30
10 Hendricks	45	B-5	25
23 Hendricks	45	B-5	40
28 Hendricks	45	B-5	37
27 Hendricks	34	B-5	45
31 Hendricks	34	B-5	16
13 Hendricks	40	B-5	92
15 Hendricks	40	B-5	96
18 Hendricks	45	26	55
21 Hendricks	45	26	65
Gulf-Cowden:			
1 Hendricks	3	B-12	30
3 Hendricks	3	B-12	10
4 Hendricks	3	B-12	70
Humble Oil & Ref. Co.:			
1-A Hendricks	34	B-5	85
4-A Hendricks	34	B-5	85
8-A Hendricks	34	B-5	70
3-A Hendricks	34	B-5	3
9-A Hendricks	34	B-5	50
16-A Hendricks	34	B-5	45
5-A Hendricks	34	B-5	50
7-A Hendricks	34	B-5	60
14-A Hendricks	34	B-5	30
15-A Hendricks	34	B-5	30
17-A Hendricks	34	B-5	30
6-A Hendricks	34	B-5	95
10-A Hendricks	34	B-5	50
11-A Hendricks	34	B-5	95
2-A Hendricks	34	B-5	32
13-A Hendricks	34	B-5	30
1-B Hendricks	29	B-5	95
2-B Hendricks	29	B-5	97
6-B Hendricks	29	B-5	80
3-B Hendricks	29	B-5	4
4-B Hendricks	29	B-5	2
5-B Hendricks	29	B-5	3
1-B Hendricks	39	26	60
2-B Hendricks	39	26	99
7-B Hendricks	39	26	98
3-B Hendricks	39	26	94
5-B Hendricks	39	26	93
4-B Hendricks	39	26	2
8-B Hendricks	39	26	90
1-C Hendricks	32	26	98
5-C Hendricks	32	26	96
3-C Hendricks	32	26	98
6-C Hendricks	32	26	38
2-C Hendricks	32	26	84
8-C Hendricks	32	26	90
4-C Hendricks	32	26	70
7-C Hendricks	32	26	38
6-C Hendricks	10	B-12	90
8-C Hendricks	10	B-12	37
Independent Oil & Gas:			
1 Hendricks	42	B-5	12
1-A Hendricks	34	B-5	6
2-A Hendricks	34	B-5	9
3-A Hendricks	34	B-5	3
8-A Hendricks	34	B-5	25
4-A Hendricks	34	B-5	60
6-A Hendricks	34	B-5	10
7-A Hendricks	34	B-5	80
1-Howe	44	26	22
1-Vardeman	41	B-5	87
4-Vardeman	41	B-5	36
5-Vardeman	41	B-5	65
2-Vardeman	41	B-5	87
6-Vardeman	51	B-5	80
7-Vardeman	41	B-5	72
1 McCabe	36	B-5	40
Magnolia Petroleum Corp.:			
1 Hendricks	29	B-5	80
3 Hendricks	29	B-5	70
4 Hendricks	29	B-5	35
6 Hendricks	29	B-5	60
3 Hendricks	29	B-5	35

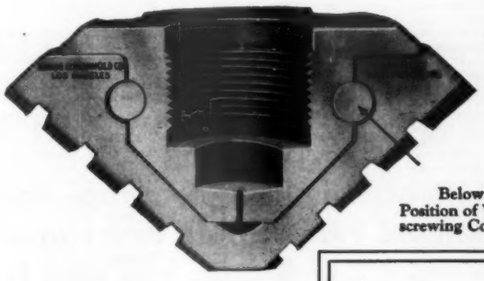
(Continued on next page)

Now VARCO

CONES AND BITS MANUFACTURED AND SOLD BY WKW

ON June 28, W. K. W. acquired all the patent and manufacturing rights for the Varco Rock Bit and Cones. The same care and exacting precision in machining and heat treating, practiced by the former manufacturers, Abegg & Reinhold Co., Inc., will be followed by W.K.W. The plant at Hollydale will be enlarged with an addition costing $150,000 for the production of Varco Rock Bits and Cones.

Varco Cones are extremely easy to assemble or remove from the pin. The illustrations below show how the cones may be attached or removed by the use of the special wrench, there is no necessity to burn off the Varco Cones with a torch, a few taps with a hammer and the cone is off.

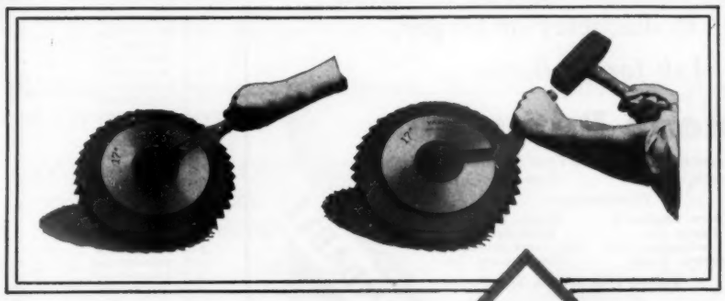


Left:
Section through cone showing exclusive VARCO locking device.

Easily accessible. No groping in the dark. No necessity to burn cones off with the torch, a few blows with a hammer and the cone is off.

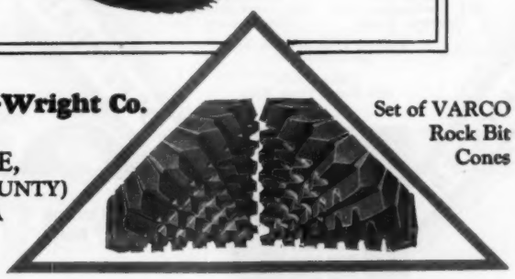
Below Left:
Position of Wrench in screwing Cone to Pin.

Below Right:
Position of Wrench in removing Cone from Pin.



Patented 1,464,386 and Patents Pending.

Wieman-Kammerer-Wright Co.
INCORPORATED
HOLLYDALE,
(LOS ANGELES COUNTY)
CALIFORNIA



Set of VARCO Rock Bit Cones

Export Office: 150 BROADWAY, NEW YORK

Independent WATER SUPPLY AT *Lowest Cost*

Have your own water supply and eliminate fear of water shortage or high water costs. The *Pomona Water-lubricated Turbine Pump* will lift all the water from your well and do so at lowest cost. Its mechanical excellence means lower power cost. Its simplicity means long life. Its water-lubricated bearings mean freedom from destructive sand-cutting and vibration. Noiseless. No pit needed. If electrically driven, a simple push button starts and stops the pump. An automatic control can be located in a remote position. Capacities 15 to 5000 gallons per minute. Can be installed in wells 4″ in diameter or larger.

Ask for Bulletin

Pomona Pump Co.

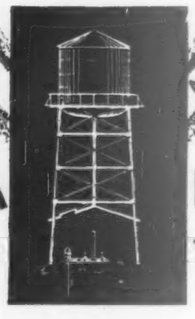
615 Bessemer Bldg. Pittsburgh, Penn.
206 East Commercial St. Pomona, Calif.

Distributors:

Southern Engine & Pump Co. 615 Washington Ave. Houston, Texas
Menge Pump & Machinery Co. 862 Tchoupitoulas St., New Orleans, La.
United Iron Works, Inc. Springfield, Mo.
Tulsa, Okla. 14th Floor, Hunt Bldg.

WATER LUBRICATED

ALWAYS DEPENDABLE



POMONA PUMPS

SUPER- TURBINE

Company, Well No.—	Sec.	Blk.	Water pct.
5 Hendricks	29	B-5	35
7 Hendricks	29	B-5	75
8 Hendricks	29	B-5	70
Marland Oil Co.:			
1 Hendricks	33	26	90
3 Hendricks	33	26	90
4 Hendricks	33	26	60
5 Hendricks	33	26	85
1-A Hendricks	29	26	75
2-A Hendricks	29	26	85
1-B Hendricks	34	26	75
2-B Hendricks	34	26	90
Morton:			
1 Hendricks	27	B-12	65
2 Hendricks	27	B-12	80
Murchison Oil Co.:			
2-A Hendricks	28	B-5	89
3-A Hendricks	28	B-5	48
1-C Hendricks	33	26	25
2-B Hendricks	35	B-5	97
3-B Hendricks	35	B-5	60
4-B Hendricks	35	B-5	65
1-H Hendricks	33	26	75
1-I Hendricks	35	26	75
Lion Oil Co.:			
1-A Hendricks	41	B-5	10
7-A Hendricks	41	B-5	33
11-A Hendricks	41	B-5	40
2-A Hendricks	41	B-5	56
8-A Hendricks	41	B-5	96
3-A Hendricks	41	B-5	96
4-A Hendricks	41	B-5	90
9-A Hendricks	41	B-5	30
5-A Hendricks	41	B-5	15
6-A Hendricks	41	B-5	67
1-A Hendricks	41	B-5	28
1-B Hendricks	34	B-5	40
8-B Hendricks	34	B-5	40
9-B Hendricks	34	B-5	20
Lion Oil & Ref. Co.:			
2-B Hendricks	34	B-5	5
6-B Hendricks	34	B-5	3
7-B Hendricks	34	B-5	20
4-B Hendricks	34	B-5	35
10-B Hendricks	34	B-5	10
11-B Hendricks	34	B-5	30
3-B Hendricks	34	B-5	16
5-B Hendricks	34	B-5	6
12-B Hendricks	34	B-5	5
13-B Hendricks	34	B-5	4
1-C Hendricks	45	26	15
7-C Hendricks	45	26	17
11-C Hendricks	45	26	30
2-C Hendricks	45	26	30
8-C Hendricks	45	26	15
13-C Hendricks	45	26	24
14-C Hendricks	45	26	19
3-C Hendricks	45	26	15
6-C Hendricks	45	26	39
9-C Hendricks	45	26	20
12-C Hendricks	45	26	25
4-C Hendricks	45	26	90
5-C Hendricks	45	26	19
10-C Hendricks	45	26	6
Mining & Engineering:			
1 Hendricks	10	B-12	95
Prairie Oil & Gas Co.			
1 Hendricks	39	26	48
4 Hendricks	39	26	39
6 Hendricks	39	26	40
2 Hendricks	39	26	40
3 Hendricks	39	26	80
5 Hendricks	39	26	80
1 Daugherty	16	74	30
2 Daugherty	16	74	18
1 Hendricks	41	B-5	89
4 Hendricks	41	B-5	82
11 Hendricks	41	B-5	84
13 Hendricks	41	B-5	60
5 Hendricks	41	B-5	35
6 Hendricks	41	B-5	88
7 Hendricks	41	B-5	80
8 Hendricks	41	B-5	88
12 Hendricks	41	B-5	90
2 Hendricks	41	B-5	60
3 Hendricks	41	B-5	96
10 Hendricks	41	B-5	82
1-B Hendricks	41	B-5	60
Shell Pet. Corp.:			
1-A Hendricks	45	26	98
2-A Hendricks	45	26	92
5-A Hendricks	45	26	97
3-A Hendricks	45	26	93
6-A Hendricks	45	26	93
2-B Hendricks	29	B-5	90
4-B Hendricks	29	B-5	6
5-B Hendricks	29	B-5	60
1-C Hendricks	29	B-5	98
2-C Hendricks	29	B-5	98
3-C Hendricks	29	B-5	98
6-C Hendricks	29	B-5	98
5-C Hendricks	29	B-5	20
4-C Hendricks	29	B-5	80
7-C Hendricks	29	B-5	90
8-C Hendricks	29	B-5	90
1-D Hendricks	41	B-5	99
2-D Hendricks	41	B-5	96
5-D Hendricks	41	B-5	95
3-D Hendricks	41	B-5	99
4-D Hendricks	41	B-5	99
6-D Hendricks	41	B-5	99
2-E Hendricks	40	B-5	85
1-E Hendricks	40	B-5	94
3-E Hendricks	40	B-5	90
2-F Hendricks	46	26	100
5-F Hendricks	46	26	99
1-F Hendricks	46	26	80
8-F Hendricks	46	26	25
3-F Hendricks	36	26	98
4-F Hendricks	36	26	30
7-F Hendricks	36	26	15
1-G Hendricks	39	26	25
1 Leck	3	74	65
2 Leck	3	74	84
Shell-Texas:			
1-A Hendricks	29	B-5	95
2-A Hendricks	29	B-5	95
1-B Hendricks	40	26	80
5-B Hendricks	40	26	64
6-B Hendricks	40	26	90
3-B Hendricks	40	26	95
1-C Hendricks	40	26	95
2-C Hendricks	40	26	92
4-C Hendricks	40	26	8
3-C Hendricks	40	26	92
5-C Hendricks	40	26	93
6-C Hendricks	40	26	72
1-D Hendricks	40	26	96

Company, Well No.—	Sec.	Blk.	Water pct.
5-D Hendricks	40	26	96
6-D Hendricks	40	26	98
2-D Hendricks	40	26	99
3-D Hendricks	40	26	96
4-D Hendricks	40	26	96
1-E Hendricks	40	26	46
2-E Hendricks	40	26	67
4-E Hendricks	40	26	99
Grisham-Hunter:			
5 Hendricks	45	26	91
6 Hendricks	45	26	62
1 Hendricks	45	26	2
4 Hendricks	45	26	64
Sid Richardson:			
1 O'Brien	50	F	30
Skelly Oil Co.:			
5 Hendricks	40	26	50
12 Hendricks	40	26	50
4 Hendricks	40	26	65
10 Hendricks	40	26	1
11 Hendricks	40	26	65
1-C Hendricks	16	B-12	28
1 Leck	22	26	34
Simms:			
Sealey	50	F	66
Southern Crude:			
T-67-1-A- 1	42	B-5	15
3	42	B-5	60
2	42	B-5	65
T-67-1-B- 1	44	26	15
2	44	26	20
3	44	26	40
4	44	26	10
T-67-1-C- 1	33	B-5	16
2	33	B-5	3
4	33	B-5	29
3	33	B-5	25
5	33	B-5	12
T-67-1-E- 1	42	B-5	70
2	42	B-5	30
3	42	B-5	55
T-67-1-F- 2	33	B-5	16
8	33	B-5	50
4	33	B-5	32
5	33	B-5	10
T-67-2-D- 1	28	26	6
2	28	26	20
4	28	26	35
3	28	26	25
T-67-3-A- 3	4	B-12	60
6	4	B-12	25
4	4	B-12	34
5	4	B-12	16
T-67-3-B- 2	33	26	58
4	33	26	65
3	33	26	55
5	33	26	65
T-68-3-A- 2	35	B-5	68
5	35	B-5	26
3	35	B-5	73
T-68-3-B- 2	46	26	20
T-88-1-A- 1	44	26	15
2	44	26	12
6	44	26	11
T-88-B- 3	4	B-12	10
4	4	B-12	12
T-88-1-A- 3	44	26	10
4	44	26	10
T-88-C- 1	28	B-5	10
2	28	B-5	40
3	28	B-5	30
4	28	B-5	13
6	28	B-5	18
5	28	B-5	20
7	28	B-5	75
T-88-CX-1	21	26	75
T-88-D- 3	4	B-12	12
4	4	B-12	6
6	4	B-12	18
T-88-H- 1	28	B-5	55
3	28	B-5	4
6	28	B-5	18
T-88-I- 1	30	B-5	11
2	30	B-5	16
7	30	B-5	40
T-88-I- 4	30	B-5	20
T-88-J- 1	30	B-5	20
3	30	B-5	3
T-88-K- 1	41	26	67
2	41	26	70
5	41	26	15
3	41	26	75
4	41	26	20
6	41	26	39
T-88-L- 3	4	B-12	15
4	4	B-12	6
T-88-M- 3	33	26	78
4	33	26	12
16	33	26	16
28	33	26	4
13	33	26	40
27	33	26	46
8	33	26	40
10	33	26	20
15	33	26	44
11	33	26	20
14	33	26	35
7	33	26	10
20	33	26	8
T-88-N- 2	28	26	14
5	28	26	49
T-88-O- 1	28	26	65
2	28	26	11
T-88-P- 1	28	26	47
T-88-Q- 1	27	26	15
T-88-R- 1	27	26	5
2	27	26	10
T-88-S- 1	34	26	4
T-88-T- 1	34	26	20
5	34	26	25
4	34	26	24
2	34	26	35
5	34	26	25
7	34	26	5
T-88-U- 1	41	26	25
3	41	26	50
5	41	26	55
4	41	26	20
2	41	26	25
7	41	26	50
6	41	26	55
T-88-V- 1	29	26	45
T-88-W- 1	5	B-2	8
T-89-A- 1	35	B-5	20
2	35	B-5	40
3	35	B-5	14

(Continued on next page)

Pumping Water with Electric Power

ELECTRIC POWER has proven its reliability and economy in the operation of water pump stations for oil field operations. It is important, also, that ELECTRIC POWER permits the use of centrifugal pumps.

Stations equipped with electric motors may be moved quickly and economically. Pumps and motors may be mounted on a barge on river banks close to water edge at very low cost.

Notice the names of our branch Commercial Department officers. Without obligation, you are urged to talk things over with our nearest representative.

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Ardmore Office - - - - - - - - - - - J. G. Cronin
Muskogee Office - - - - - - - - - - W. H. Stueve
Sapulpa Office - - - - - - - - - - - James Tussey
Enid Office - - - - - - - - - - - - - - - W. H. Kershner

OKLAHOMA GAS AND ELECTRIC COMPANY

J. F. Owens, Vice President and General Manager

BYLLESBY — OKLAHOMA GAS AND ELECTRIC COMPANY — PIONEERS IN PUBLIC SERVICE

Courteous, Personal Attention to Every Customer

One of a series of advertisements showing what ELECTRIC POWER has done.

YOUR MONEY'S WORTH

in Industrial Brake Lining

MEASURE your brake maintenance costs on the basis of actual service rendered, and you will appreciate the economy of Rusco Industrial Brake Lining. Rusco effects three important savings: it wears longer—reduces the waste of time and labor caused by frequent relining of brakes—and prevents scoring of brake drums.

Rusco Industrial Brake Lining is made from selected long fibre, Canadian Chrysotile asbestos—the finest and toughest asbestos mined—the best heat resistant.

Special looms on which Rusco is woven were designed and built in the Russell plant and weigh over 10 tons, the heaviest brake lining looms in the industry. These mighty looms literally pound the threads into one sturdy, solid woven unit—making a product of exceptional strength and durability.

Rusco Industrial Brake Lining is available in all sizes up to 20 inches in width.

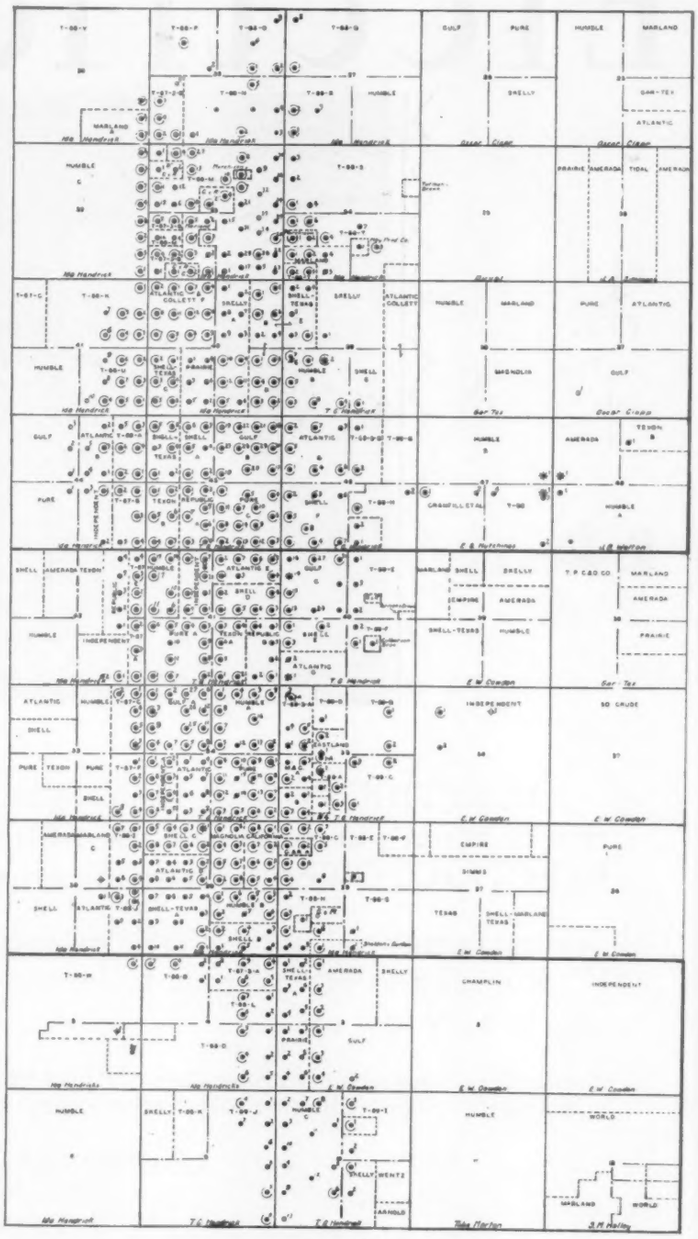
If you do not know the name of the nearest Rusco supply dealer, write us for complete information. Address Dept. V-15, The Russell Mfg. Co., Middletown, Conn. In Canada, The Russell Mfg. Co., Ltd., St. Johns, P.Q. Also manufacturers of Rusco Belting.

5 REASONS
Why Rusco Gives you Your Money's Worth

1. Gives longer service
2. Withstands frictional heat
3. No offensive fumes
4. Does not score brake drums
5. Waterproof and oil proof

RUSCO
INDUSTRIAL
BRAKE LINING

Company, Well No.—	Sec.	Blk.	Water pct.
T-89-B- 1	35	B-5	14
2	35	B-5	10
T-89-C- 2	35	B-5	15
3	35	B-5	3
1	35	B-5	5
T-89-F- 1	40	B-5	7
T-89-H- 1	46	26	6
T-89-I- 1	10	B-12	20
T-89-J- 4	9	B-12	12
8	9	B-12	8
5	9	B-12	30
Texon Oil & Land Co.:			
1-A	41	B-5	90
2-A	41	B-5	90
5-A	41	B-5	90
3-A	41	B-5	80
4-A	41	B-5	98
6-A	41	B-5	90
1-B	45	26	50
2-B	45	26	7
5-B	45	26	35
6-B	45	26	38
3-B	45	26	28
4-B	45	26	35
Warner-Quinlan:			
1-Leck	3	74	50
Winkler O. P. Co.:			
1	33	24	93
Wentz Oil Corp.			
1	27	B-12	15



ARTIFICIAL METHODS OF OIL RECOVERY

(Continued from Page 41)

mediate effect is that the daily average production is usually reduced somewhat, but authoritative observation shows that the deferred production is soon recovered and more besides.

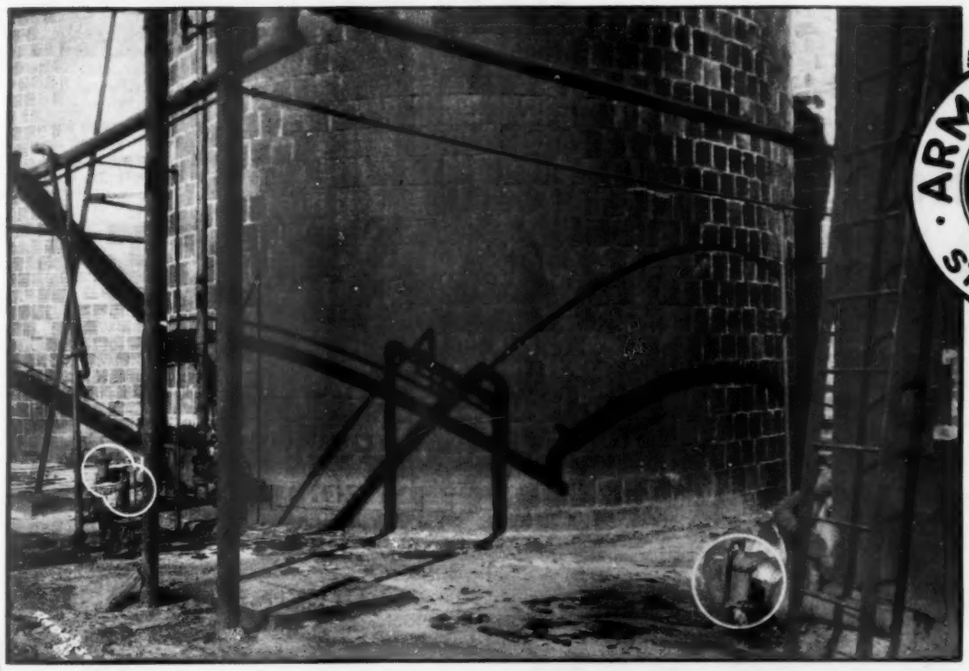
It is logical to assume that the ultimate recovery will be increased by properly operated pressure control, for if gas energy is not used up in doing excess and useless work, it remains to do the useful work of bringing oil to the well and expelling it at the surface.

Repressuring by Air or Gas or Both

Repressuring by air or gas, is in short the process of reintroducing energy back into an oil producing formation. In general practice, air or gas is pumped into key wells. It travels to producing wells, and in so doing carries oil along with it. Repressuring on nearly depleted properties has in most cases increased current production of oil and retarded the encroachment of water.

Repressuring may be employed on properties in the earlier stages of its life. This practice is becoming more and more common. In such cases there is usually enough surplus gas to use gas instead of air, which is advantageous. Repressuring in the early stages has the effect of postponing water encroachment and stimulating production. Ultimate production in either case is increased.

Figure 3 is an example of successful repressuring. The property was on a



ARMSTRONG · "INVERTED BUCKET" STEAM TRAP · TRADE MARK

A few of the thousands of Armstrong Traps on refinery service. These traps are draining steam coils in steam heated tanks.

Why ARMSTRONG TRAPS need so little attention

The maintenance required by Armstrong Steam Traps is so little as to be practically negligible, even in the severe conditions of oil and refinery service. A check of 2,000 installations has shown the average repair cost to be about 3c per trap per year. Many operate years without any attention whatever. Here are some of the reasons for this remarkable absence of trouble:

—air binding is eliminated. Gases, scum and sludge are also automatically discharged with the condensate. The upward, swirling motion of the water prevents the collection of sediment.

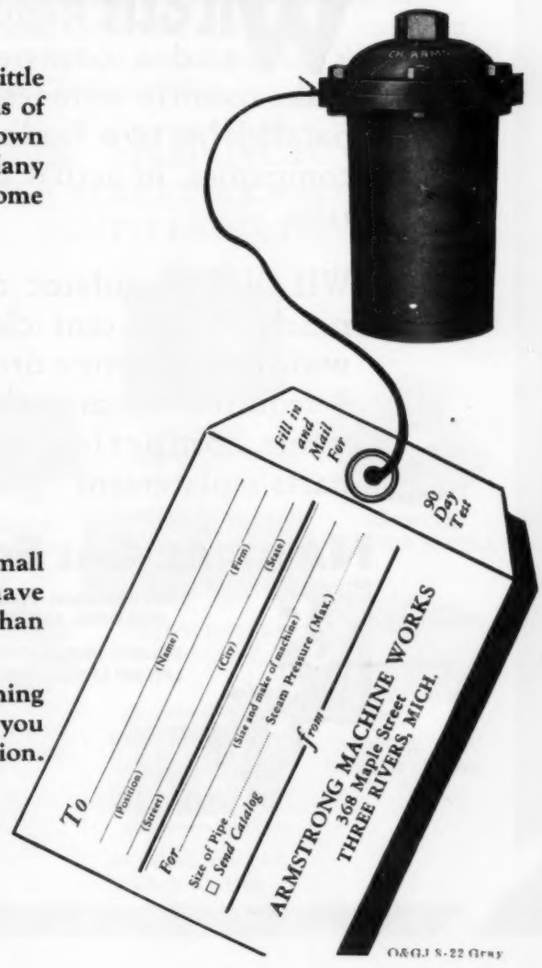
—the mechanism is all contained within the body and is so fool-proof that the trap will work at any angle up to 15° with the vertical.

—there is no "wire-drawing" to cut and score seats. The valves are made of heat-treated chrome steel, an exclusive Armstrong development.

—the trap is always water-sealed against steam leakage.

In addition, the Armstrong Traps have the advantage of small size (they are supported by the connecting pipes) and have consequently low radiation loss. The capacities are greater than with many traps of much larger size.

Prove the above statements on your own condensate draining problems. The coupon entitles you to receive as many as you desire for 90 days' service, without cost to you or obligation.



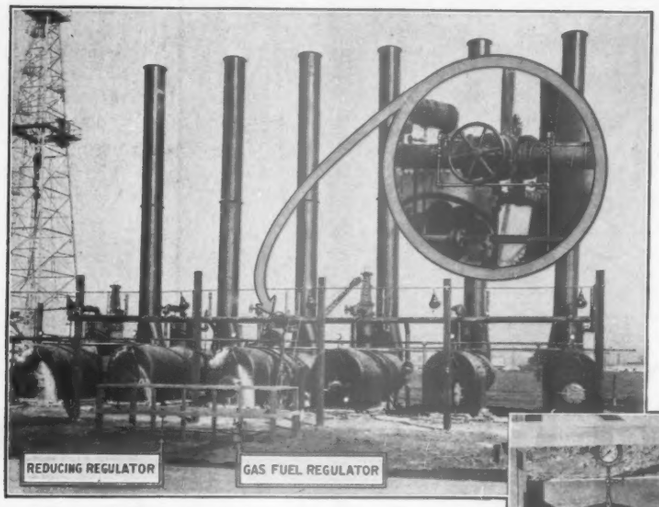
Armstrong Machine Works

368 Maple Street, Three Rivers, Michigan

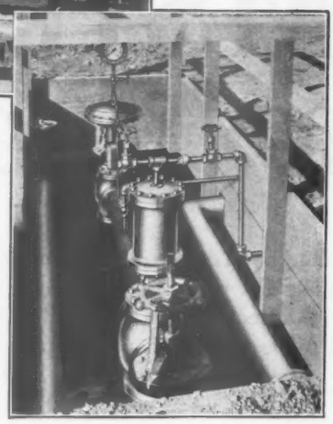
District Representatives in 42 Cities

O&GJ 8-22 Gray

Claims vs. PERFORMANCE!



WILGUS Regulator superiority *proved* by comparative tests in plants of leading oil companies!



WILGUS Gas Fuel Regulator Type T-4 is designed for pressures from 100 to 350 pounds without change of parts. Showing typical installation with locomotive type oil field boilers.

Close-up of WILGUS Regulator Type T-4, by-pass connections, and steam header connection. Reducing regulator is required only when gas pressure is excessive for operation of burners.

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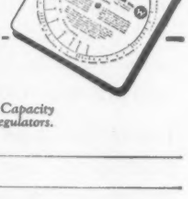

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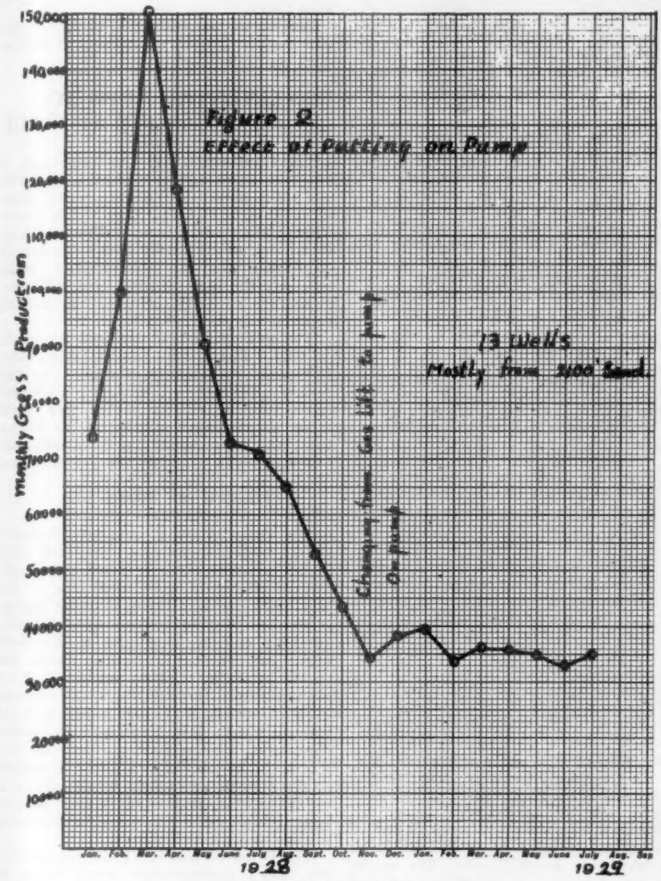
steady decline, and at the time repressuring was begun it was being operated at a small loss. Vacuum was being applied and the first step in repressuring was to open all wells wide, let them take all the air they cou.d use and later to force air into key wells.

As soon as pumping started, production quicky mounted beyond old levels until now the daily average production is three or four times what it was just prior to repressuring.



Effect of pumping.

The upward trend of the curve has not yet been reached, for a part of the program is the reconditioning of wells which break over into water. This work is meeting with consistent success. It is worthy of note that many of the wells under repressuring operations have increased six and seven times, and a few on up the scale to nearly thirty times. The latter amount of increase is unusual.

The increase in ultimate production, due to repressuring, will be at least equal to the amount of oil taken out prior to repressuring. Up to 1926 the property had produced about 2,350,000 bbls. net. The peak in daily average production is yet to be reached, and when the decline sets in it will probably be slower than under natural conditions.

The hypothetical curve (Figure 4) is presented for the purpose of showing the effect of repressuring on the normal decline of a property. It pictures graphically what successful repressuring will do to a group of wells, judging from average experience.

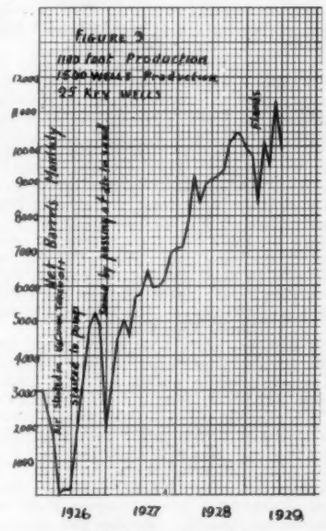
Water Drive

The artificial water drive is especially useful in the fields of Pennsylvania, particularly the Bradford area. It is said that the water drive was discovered quite by accident. The producing sand at Bradford has little or no water in it and occasionally, because of a bad plugging job or for some other cause water from the upper horizons would get into the producing sands. The results were that surrounding wells would greatly increase in oil production temporarily, and then suddenly cease to produce when the water broke through and drowned out the well.

The purpose in water flooding is to control the advancing water. If it advances too rapidly in a certain portion of the field, steps are taken to check it and keep it from prematurely drowning out production.

Another method of flooding is to drill "five spot" key wells and introduce the water through them. This latter method is coming into more general use than formerly.

The water literally flushes oil out of the reservoir and as a result much of the oil that remained in the sands that were nearly exhausted by the normal method of recovery is secured. Some experimentation has been done in using



Effect of repressuring.

chemicals in water which will wash the sand cleaner than ordinary water.

Flooding, wherever successful, is a powerful agency for removing oil, and will doubtless increase the ultimate recovery greatly. In Bradford the ultimate

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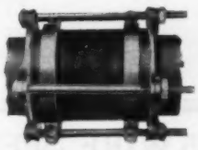
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recovery has been increased as much as 300 per cent over the original calculations.

While flooding may get more oil out of the sand than any known method except mining, it is costly. It is successfully used in Pennsylvania and the East because oil is worth more there than in any other field in this country. There are probably a number of fields in the Mid-Continent where it could be applied, but at the present price of oil the operator would stand an excellent chance of taking a loss.

In conclusion it be said: (1) The air-gas lift may not increase ultimate production. It depends largely on conditions. (2) Controlled pressure is a gas energy conservation measure and will increase ultimate production in some degree. (3) Repressuring, whether applied early or late in the life of the property, will in most cases be successful in greatly increasing ultimate yield. (4) Water flooding, the most thorough agent for removing oil from depleted sands, will greatly increase the ultimate production but at such a high cost as to be limited to oils having high market values.

Time and experience will surely bring to these methods which have been in practical application such a short time, refinements and improvements which will make them more efficient for increasing yield and decreasing costs.

KENTUCKY-TENNESSEE

(Continued from Page 82)

No. 8 on the Mrs. Bob Keith lease, in the Ambrose-Weller Pool. Same firm's No. 4 Otis Greer farm, in the Whittaker Pool, reported showing for 30 bbls. and No. 1 on the Van Whitley farm, in the Deanfield area, shows for 10 bbls. No. 2, same farm, makes a showing for about as much as No. 1.

Daviess County Wells

Red Bank Oil & Gas Co. drilled a wildcat well on the St. Joseph Academy 750-acre farm, in the western part of Daviess County, 1½ miles in advance of the good producers drilled by Creek Drilling Co., and about 3 miles north of West Louisville.

The wildcat venture a short distance out of Owensboro, in Daviess County, Dahlgren & McMahan's No. 1 in the Bon Harbor Hills of 1,300 acres, owned by Jennie Williams, got a heavy dose of Blue Lick water at a depth of 1,825 feet, with plenty of sulphur odor. The water runs out of the top of the casing but has not enough pressure to force it to flow.

Huff & Calderwood's No. 8 on the north half of the Widow Salmon farm, in the Salmon Pool, is reported good for better than 50 bbls. initial

Jetsan Oil Co. and others' No. 8 on the S. Hinton farm, in the Jones Pool, southwest of Whitesville, is rated as good for 35 bbls.

Scattered Completions

In the Niagara Field of Henderson County, the Niagara Oil & Gas Co.'s well on the Dunn lease is estimated at better than 75 bbls.

In the Greenville Field of Muhlenburg County, James C. Ellis and others' No. 1 on the Bradshere lease, is reported at 400 bbls. initial at a total depth of 1,790 feet. Top of the Mississippi lime was found at 1,650 feet and 40 feet of the lime was penetrated. Wood Oil Co. is reported to have found a dry hole on the Schaeffer lease, 3 miles east of the Ohio Oil Co.'s two wells on the Kennedy farm.

Illinois Pipe Line Runs

Total runs made from wells served by the Illinois Pipe Line Co in western Kentucky during month of July, 1929, were 242,857.90 bbls. The Tri-County Field alone has a daily production close to 12,000 bbls., which is a peak for Ohio, Daviess and Hancock Counties.

Field Notes

Numerous new drilling wells are reported scheduled in the Niagara Field in Henderson County. Besides the discoverer of the field, the Imperial Oil & Gas Products Co., H. X. Clark, well known Celina, Tenn., operator; Whitmer Oil Co.; Arnold Esslinger, operators in the Glasgow, Ky., Field; Young & Ellis, Niagara Oil & Gas Co. and others are lease owners.

R. W. McMahan of Owensboro, secured a lease on the two and two-fifths-acre lot of the Barnett's Creek Baptist Church, in Ohio County, west of Taffy and southeast of Buford, not far away from the big wells of the Rex-Pyramid Oil Co., on the Morgan farm, which is looked upon as a western extension to the rich Bartlett Pool.

The Ohio Oil Co. is starting a well as an offset to the good well of James C. Ellis and others on the Bradshere lease, in the Greenville Field of Muhlenburg County.

Several wells are starting in the Gainesville shallow territory northeast of Scottsville, in Allen County.

CONTINENTAL ADDS TO PONCA CITY STORAGE

The Continental Oil Co. announces it has torn down and is moving six 80,000-bbl. and seven 55,000-bbl. tanks from its tank farm at Isam, Tex., to the Ponca City, Okla., tank farm. The company is running about 13,500 bbls. of crude oil to storage and the reconstructed tanks will give the farm 865,500 bbls. additional storage capacity, bringing the present capacity up to 10,000,000 bbls.

The new tanks will be used for crude oil only. The present tank farm includes 110 tanks for storage of crude oils and refined products. Twenty-two storage tanks will be left in the Borger Field after the removal of the 13 to Ponca City tank farm, which has 5,250,000 bbls. of crude oil in tanks at the present time.

DEATH OF JOHN LEY

The death of John Ley, manufacturer of oil well supplies, in Bradford, Pa., which occurred recently after a long period of ill health, took away one of the best known men in the eastern oil region.

Mr. Ley was the sole owner of a blacksmithing and machine shop in Bradford which has operated continuously since the middle seventies and by means of it he accumulated a fortune which he increased by wise outside investments. He used his money wisely. He supplied the entire equipment for the first manual training school in connection with the Bradford public schools and added materially to it in the course of the years and he also bought equipment for the girls' domestic science department.

The Bradford hospital benefited through Mr. Ley's philanthropic spirit when he supplied the funds for a maternity building and at another time a children's medical and surgical building. He donated largely to the Children's Home in Bradford and when the First Methodist Church planned to erect a large stone structure, Mr. Ley was one of the largest givers, and he also presented the pipe organ. All of his gifts were given without ostentation. It was his wish that his name never be mentioned in connection with his works of charity, but the facts always leaked out. Mr. Ley was 84 years old at the time of his death. His nearest surviving relative is a sister, Mrs. Z. T. Weaver, of Clarendon, Pa.

OIL MAN'S GENEROUS DONATION

Thomas H. Kennedy, oil operator and banker, of Bradford, Pa., has presented the Bradford Hospital with an endowment of $100,000 as a memorial to his parents, the late Mr. and Mrs. Peter T. Kennedy. The hospital for over 40 years has been partly supported by the State and the public of Bradford, but this is the largest single gift it has ever received.

ANOTHER MUSKEGON FATALITY

MUSKEGON, Mich., Aug. 19.—Courte B. Hoff, 39, of Marietta, died as the result of burns received one week previously in an explosion and fire at the Simplex Oil Co.'s No. 1 James Dow, in the Muskegon Field. Hoff was tool dresser with Albert R. Throniley, 47, driller also of Marietta, who was instantly killed in the explosion. Hoff's death increased the Muskegon Field record of fatalities from explosion and fire to six. The field is less than two years old.

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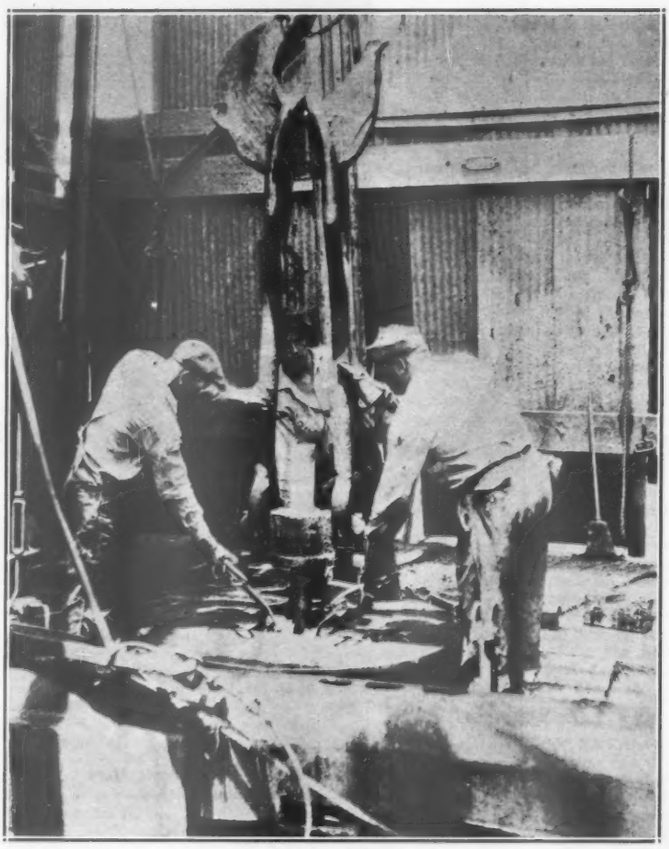

—Underwood & Underwood.

The Shell Oil Co. of California's No. 11 Nesa in the Signal Hill Field is aiming at the 10,000-foot mark. At 9,115 feet, deepest hole in the world, it was in shale with breaks of gray sand and hard shell and an occasional thin streak of oil sand. The size of the derrick is illustrated by comparison with ordinary derricks on adjacent wells. The other photograph shows part of the crew on the derrick floor.

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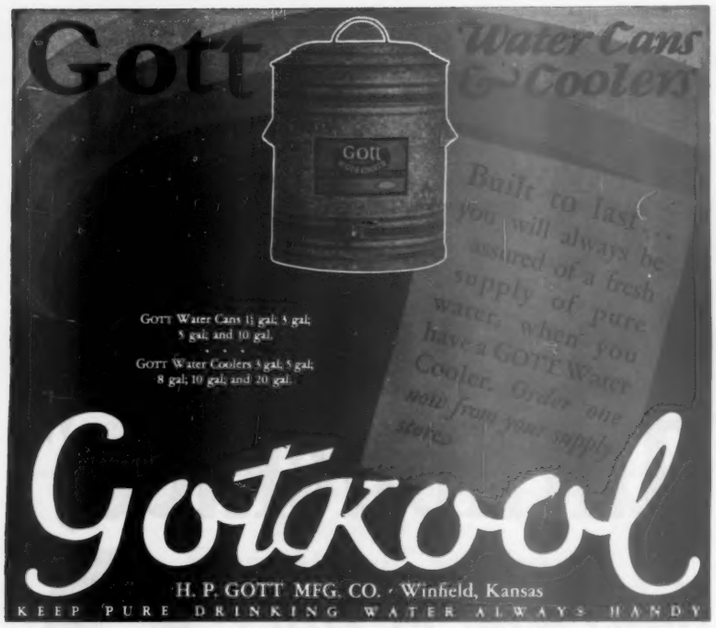
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FRENCH GOVERNMENTAL POLICY ON CONTROL OF TRADE IN PETROLEUM

By Charles E. Kern
Washington Bureau, The Oil and Gas Journal

WASHINGTON, D. C., Aug. 17.—There is considerable speculation in diplomatic circles of all countries in respect to the result of the policies of the French republic now being applied in the control of all oil interests in that country. Recently enacted laws are extending government control over every commercial phase of importation and distribution of petroleum and its products with a practical fixing of prices at which these products can be sold. No one knows where these policies will bring the industry and how they will affect oil companies now importing motor fuel into French territory.

It is true, the monopoly system sanctioned by the more radical French politicians has been discarded. At the same time the regime of proportional imports now entering into effect will bring about a strict government control, even to the extent of price fixing, very much resembling the control that would have been effected by a monopoly system.

Effect of New Laws

The two new laws affecting the petroleum industry in France which were passed by the French Parliament in March, 1928, appeared to have as their primary motive the desire of the French Government to encourage the re-establishment of the oil refining industry in that country. That result has not been attained but the restrictions which were supposed to bring it about are operating in full force so that competitive freedom among the oil companies has been wholly destroyed.

The law of March 30, 1928, reinforces government control of petroleum importations by means of special licenses and maintains a balance between importers through a proportional repartition of imports.

Its complementary measure, the law of March 16, 1928, readjusts French tariff rates with the declared purpose of protecting oil of French production. These two laws inaugurated a new regime, marking a turning point in the French petroleum policy. It was not until April 1 of this year that the operation of this new regime was begun.

It is interesting to know that this change of policy is directed at the petroleum industry, leaving other industries unhampered.

Although subjected to high fiscal obligations and to regulations requiring the maintenance of reserve stocks the petroleum industry heretofore has otherwise always enjoyed the same freedom as other industries handling products necessary to the economic life of the nation. The law of March 30, 1928, brought an end to this freedom.

Strict Government Control

While the monopoly system has been cast aside the regime of proportional imports now being enforced is bringing about a strict government control that is difficult to distinguish from the policy advocated by these elements of French political influence. Under the provisions of this law the State not only controls the existing industry but also its future developments.

It is asserted in France among the advocates of this system that the new regime should in no way prejudice the present commerce of existing oil enterprises, but at the same time it is not denied that the State now controls directly the expansion of these enterprises as well as the formation of new ones, granting permission as it sees fit for their formation and fixing the limits of their development.

The State has endeavored during the past few years to regulate petroleum prices. The price of gasoline has been stable in France since November, 1928, at 203 francs per hectoliter, or about 30 cents per gallon, for light gasoline, and 193 francs per hectolitre, or about 25 cents per gallon, for heavy gasoline. This stability of price, as quoted in official journals, did not prevent a price war from taking place between oil importers during the latter part of 1928 and beginning of 1929, as newly organized importing enterprises were determined to dispose of their oil at any price in order to establish a high sales average and to obtain in consequence a substantial import quota in the authorizations for imports for the next three years to be issued prior to April 1, 1929. The ministerial decrees, fixing the amount of these authorizations to the 46 importing companies in France, have now appeared, and it is believed that importers will in future have little desire to cut prices. Any price war now undertaken should be impeded by the regime of proportional imports. A firm wishing to sell at low prices may be able to dispose of its stock more quickly than the others, but, once its limit is reached, competitive sellers will become masters of the market.

Products Highly Taxed

Petroleum products are highly taxed in France and for this reason their price is above that in the United States. In 1927, customs duties and interior taxes on these products brought receipts of more than a billion and a half francs to the State. Precautions were taken in establishing the new schedule of tariffs prescribed by the law of March 16, 1928, not to compromise this national income. During the next few years, there would seem to be small danger of a diminution of treasury receipts in case the re-establishment of the refining industry in France should eventually bring about a decrease in revenue. It is claimed that treasury losses thus incurred would be partially offset by the various direct and indirect taxes paid by the new refineries, as well as by an anticipated increase in consumption.

It remains to be seen, however, whether the protection granted to the refining industry by the new laws will prove sufficient for its purpose. The law of March 16, 1928, assesses a duty of 35.50 francs per hectolitre upon crude oil imported for refining in a registered French refinery, whereas imported gasoline and kerosene will pay a duty of 44 francs per hectolitre. If the saving of 8.50 francs ($0.322) per hectolitre (26.417 gallons) represents an insufficient protection to refiners of these products, it is anticipated that the government may grant further protective measures.

On the other hand, the new tariff schedule permits a substantial saving of 33 francs ($1.29) per 100 kilos (220 pounds) for lubricating oils and petroleum residues refined in France, of 77.50 francs ($3.03) per 100 kilos for oil of vaseline and paraffin, and 32.50 francs ($1.27) per 100 kilos for paraffin. This important protection given to refiners of heavy oils and petroleum residues indicates the intention of the French government to encourage in every way the process of "cracking" in France.

When Refineries Closed

The refining industry flourished in France on a small scale during 40 years, up to 1903. The finance law of March 30, 1903, in creating a manufacturers' tax of 1.25 francs per 100 kilos, removed the slight protection theretofore granted by the state to that industry. The 10 refineries then doing business were obliged to close their doors.

To the closing of French refineries were attributed many difficulties experienced by France during the war and, for this reason, as stated by officials, an effort has been made by the government during the past few years to bring forward legislative measures to encourage the re-establishment of the refining industry. These measures proved inadequate up to the year 1928, but it is now

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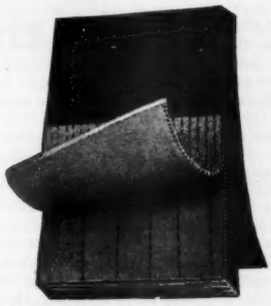

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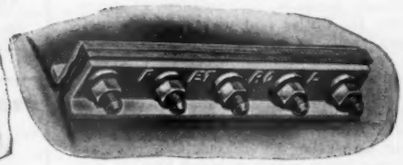

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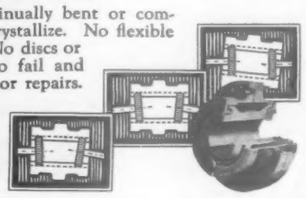

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anticipated that the laws of March 30, 1928, will have the desired effect and that the refining industry may again flourish in France.

Although the decrees inaugurating the regime of proportional imports beginning April 1, last, have already limited all importation of petroleum products during the next three years among 46 importers to 2,874,400 metric tons, the State still holds the right of authorizing, for a period not to exceed 20 years, imports of crude oil for refining purposes.

There has been a delay in the issuance of the ministerial decree fixing the amounts of crude oil imports but this has not retarded preparations for the installation of new refineries. Recent information indicates that nine new refineries are being organized and have their plans made and sites chosen. In some instances buildings have been started.

While there has been no public announcement of any government action it is generally believed in France that the companies controlling these projected refineries have negotiated unofficially with the French officials and have been promised authorizations to import sufficient crude oil for the needs of their refineries. It is readily seen that as the refining interests become ready to take care of French demands for products of petroleum the duties laid upon such products may easily be placed on a level to give a monopoly of refining of French companies.

As the French government is among those now protesting against the protective tariff rates contemplated in pending legislation before our Congress, the course being openly pursued by that government seems hardly consistent.

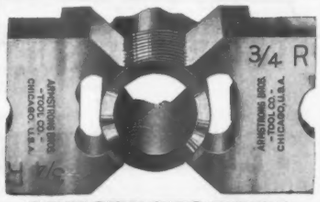
Proposed Refineries

It is publicly reported that assurances have been given of the installation of a refinery in France by the Shell interests and one by the Standard Oil interests. A French company, the Societe De Saint-Gobian, anticipates installing a refinery on the Etangs de Barre near Marseilles and the Petrofina Francaise, the company handling all imports of Russian oil in France, will soon install a refinery at Dunkirk. A refinery at Bordeaux is in a state of organization and the Compagnie Francaise des Petroles, the corporation charged by the French government to take care of its interests in Mesopotamian oil with state participation, intends to erect several refineries in different parts of France.

The main purpose of the Compagnie Francaise des Petroles involves many possibilities of development to interest the petroleum industry of this country. It was incorporated in 1924 under the sponsorship of the French government and its capital has gradually been increased to 150,000,000 francs. The last increase in capital was made in 1928. The main purpose of this corporation at the time of its organization was to care for French rights in Mesopotamian oil as well as the participation in any other operation pertaining directly or indirectly to the petroleum industry. No doubt is expressed that this company will become a privileged enterprise enjoying special guaranties both as regards its supply of crude oil and the distribution of products refined in the new refineries which it contemplates building in different parts of France. The French government hopes that this corporation will one day represent in France what the Anglo-Persian Co. represents in Great Britain.

The extent of the privileges that this French company, under practically government control, will enjoy, has not been made clear, but the mere announcement that these privileges will be accorded this enterprise contains a menace to the foreign companies with which it will compete.

On April 30, 1929, a branch company of this enterprise, the Compagnie Francaise de Raffinage, was constituted with a capital of 100,000,000 francs. The French government will become owner of shares of this company amounting to 10,000,000 francs, as soon as this participation is authorized by the French parliament, and shares amounting to 35,000,000 francs have been subscribed by



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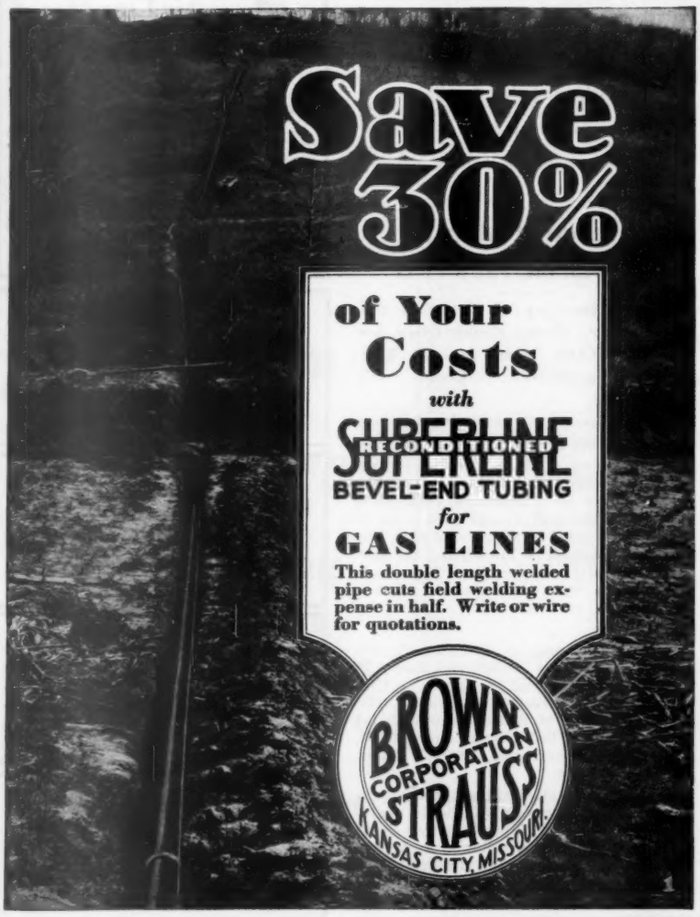

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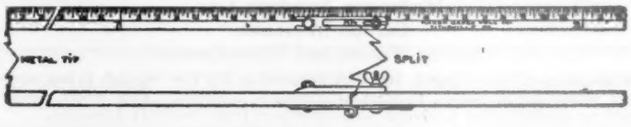

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French Importers

This group of French importers contains important names within the French oil industry and in addition to the shares held by them, the remaining shares amounting to 55,000,000 francs will fall to the Compagnie Francaise des Petroles which will thus retain a controlling interest so that the government control will be complete and the company may form a nucleus of an organization that may eventually become practically a government monopoly. The offices of president, managing director, and the board of directors are all made up of men prominent in the French petroleum industry as are the secretary of the board of directors and the auditors. In the near future members of the government will be appointed on the board of directors. That is only awaiting necessary legislative action.

The technical direction of this important enterprise, whose offices are at 20 Avenue Victor Emmanuel III, Paris, has been entrusted to Monsieur Emil Naguet, chief engineer of the Constructions Maritimes and, for some years consulting engineer of the Chambre Syndicale de l'Industrie du Petrole.

It is stated that the new technical director will devote his activities immediately to the installation of two refineries, one near Marseilles and the other between Rouen and Havre, on the banks of the Seine River. The first of these refineries will be installed to refine at the beginning 300,000 metric tons of crude oil, and its capacity increased later to 500,000 to 1,000,000 metric tons.

The Compagnie Francaise des Petroles, and its branch company, the Compagnie Francaise de Raffinage, were constituted principally for the exploitation of the French share in the Mesopotamian oil fields. But, as this oil cannot reach France duriug the next three years, even under the most favorable circumstances, the Compagnie Francaise de Raffinage will be obliged to look elsewhere for the necessary supply of crude oil for its new refineries.

It is claimed that the Compagnie Francaise de Raffinage has received numerous offers of crude oil supplies from Mexico and Venezuela, and that it will also endeaver to obtain oil of Russian source, either directly or through the intermediary of groups already having important contracts with the Russian Naphtha Syndicate.

Recent Patents

RECOVER OIL FROM CLAY

1,720,144. Recovery of Entrained Oils From Clay. George Fredric Olsen, Los Angeles, Calif. Filed Jan. 22, 1927. Serial No. 162,942. 5 Claims. (Cl. 196—147.)

1. The method of recovering lubricating oil having a Saybolt universal viscosity in excess of 150 seconds at 100 degrees Fahrenheit from a filter press cake in which said oil is entrained, comprising the step of forcing through said cake, in place in the press in which said cake was originally formed, a lubricating oil having a viscosity not less than 75 seconds nor greater than 150 seconds Saybolt universal.

1,688,859. Process of Cracking Hydrocarbons. Gustav Egloff and Harry P. Benner, Chicago, Ill., assignors to Universal Oil Products Co., Chicago, Ill., a corporation of South Dakota. Filed December 20, 1920, Serial No. 432,068. Renewed November 21, 1927. 2 Claims. (Cl. 196—56.)

1. A process of cracking hydrocarbons consisting in dispersing in a liquid hydrocarbon oil at least 10 per cent by volume of a solid bitumen in colloidal form, and in then subjecting the mixture to a cracking temperature while the same is maintained under a superatmospheric pressure.

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Next week The Oil and Gas Journal will publish its Pipe Line Number, which will contain in addition to the only complete and up-to-the-minute record of pipe line progress during the past 12 months, with reports of all new construction and description of new methods, the first complete wall map of all oil and natural gas trunk lines ever published with the names of companies, length of lines and size of pipe.

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The Pipe Line Numbers issued by The Oil and Gas Journal have been recognized by the industry as the authoritative and comprehensive publication dealing with that division. After each publication requests keep coming in for copies which it has been impossible to supply. The wall maps alone have been in constant demand ever since the first issue.

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Oklahoma-Kansas and Eastern Pipe Line Report

OKLAHOMA-KANSAS

Pipe Line Statement for June.

Runs

	Month	Dly. av.
Prairie P. L. Co.*	4,590,000	153,000
Gulf P. L. Co.	1,928,503	64,283
Texas P. L. Co.	776,754	25,892
Empire P. L. Co.	1,467,410	48,914
Magnolia Petroleum Co.	2,168,966	72,299
Cosden P. L. Co.	825,769	27,525
Sinclair P. L. Co.*	3,090,000	103,000
Oklahoma P. L. Co.	3,076,298	102,543
Other Lines*	6,270,000	209,000
Total June	24,193,700	806,456
Total May	24,994,401	806,271
Difference	801,701	185

Shipments

Prairie P. L. Co.†	6,482,036	216,068
Gulf P. L. Co.	1,861,270	62,042
Texas P. L. Co.	1,140,621	38,021
Empire P. L. Co.	1,307,260	43,575
Magnolia Petroleum Co.	2,259,312	75,310
Cosden P. L. Co.	825,769	27,525
Sinclair P. L. Co.†	3,541,996	118,066
Oklahoma P. L. Co.	3,139,447	104,648
Other Lines*	6,300,000	210,000
Total June	26,857,711	895,250
Total May	26,895,092	867,584
Difference	37,381	27,666

Stocks

Prairie Oil & Gas Co.*	36,972,000
Gulf P. L. & Gypsy Oil Co.	9,805,481
The Texas Company	8,351,672
Empire P. L. Co.	4,067,028
Mid-Continent Petr. Corp.	3,646,027
Sinclair Crude Oil Purch. Co.*	20,400,000
Magnolia Petroleum Co.	9,899,785
Oklahoma P. L. Co.	3,139,985
Carter Oil Co.	10,865,322
Other Companies*	10,675,000
Total June	117,822,300
Total May	118,519,294
Difference	696,994

*Estimated. †Prairie and Sinclair shipments include Texas crude oil.

Note—Stocks do not include approximately 5,600,000 bbls. of crude oil held in storage on private tank farms and leases.

EASTERN PIPE LINE REPORT

Runs from Wells

In the following table will be found the regular receipts from wells by various pipe lines in New York, Pennsylvania, West Virginia, Ohio, Kentucky and Indiana for May and June:

	May,'29	June,'29
Nat. Transit	253,769.83	249,968.12
S. W. Pa. P. L.	100,936.95	92,002.02
Eureka P. L.	380,915.89	352,969.84
Buckeye P. L. (Macksburg)	343,329.07	319,202.71
Buckeye P. L. (Cleveland)	12,404.92	11,542.95
Buckeye P. L. (Lima, etc.)	111,166.94	129,902.81
Indiana P. L.	5,648.56	6,724.29
Cumberland P. L.	199,988.52	171,863.19
N. Y. Transit	31,526.85	30,739.37
Tidewater P. L.	260,931.30	258,170.51
Pure Oil	62,790.66	55,379.02
Emery P. L.	69,891.53	65,956.05
Paragon Dev.	17,045.54	15,728.09
Stoll Oil Ref.	6,113.39	5,767.22
Total	1,856,959.95	1,765,016.19
Daily average	59,901.92	58,833.87

Note—Indian Refining Co. also reported other receipts of 329,785.68 bbls. Paragon Refining Co. had other receipts of 205,750.79 bbls. Paragon Development had other receipts of 192.83 bbls.

Petroleum Deliveries

The following tables exhibit the shipments of regular deliveries of various pipe lines in New York, Pennsylvania, West Virginia, Ohio, Kentucky for May and June:

	May,'29	June,'29
Nat. Transit	571,534.68	525,961.70
S. W. Pa. P. L.	384,900.26	443,209.38
Eureka P. L.	242,388.07	249,279.44
Buckeye P. L. (Macksburg)	219,775.55	192,141.28
Buckeye P. L. (Cleveland)	2,185.24	2,429.40
Buckeye P. L. (Lima, etc.)	1,597,379.34	1,574,302.18
Indiana P. L.	1,456,199.10	1,380,019.54
Cumberland P. L.	212,951.47	218,131.40
N. Y. Transit	282,843.83	250,768.40
Northern P. L.	190,228.92	160,597.19
Tidewater P. L.	210,039.70	222,328.15
Pure Oil	61,580.15	58,555.68
Emery P. L.	74,596.34	67,073.09
Paragon Ref.	186,897.16	199,644.69
Paragon Dev.	19,208.47	17,693.24
Total	5,712,708.28	5,562,134.76
Daily average	184,280.91	185,404.19

Indian Refining Co. reported other deliveries of 37,231.21 bbls.

Gross Stocks

The gross stocks held by various pipe lines in the oil producing sections of New York, Pennsylvania, West Virginia, Ohio, Indiana and Kentucky at the close of May and June:

	May,'29	June,'29
Nat. Transit	800,104.62	691,399.07
S. W. Pa. P. L.	466,368.92	535,525.28
Eureka P. L.	1,224,524.89	1,214,331.14
Buckeye P. L. (Macksburg)	463,437.44	462,009.23
Buckeye P. L. (Cleveland)	54,068.74	50,131.07
Buckeye P. L. (Lima, etc.)	1,917,019.67	2,088,348.18
Indiana P. L.	507,698.71	542,191.55
Cumberland P. L.	581,865.71	539,241.87
Southern P. L.	488,042.66	471,032.50
N. Y. Transit	233,636.63	256,751.69
Northern P. L.	408,913.03	332,496.47
Tidewater P. L.	1,291,934.65	1,279,682.60
Pure Oil	13,042.02	10,619.05
Emery P. L.	9,439.08	7,937.53
Paragon Ref.	17,668.51	23,504.69
Indian Ref.	152,604.26	146,226.30
Paragon Dev.	7,540.83	6,051.72
Tuscarora	265,649.33	264,796.11
Total	8,903,559.70	8,921,275.05
Decrease	74,612.15	
Increase		17,715.35

Grades of Oil

The following table shows the amount of the different grades of oil held by the eastern pipe lines at the close of May and June showing the gross stocks of the above fields:

	May,'29	June,'29
Pennsylvania	3,350,662.61	3,279,171.77
Lima	587,235.33	635,542.29
Kentucky	787,127.03	718,933.39
Mid-Continent	3,788,393.60	3,914,745.95
Illinois	390,141.13	372,881.65
Total	8,903,559.70	8,921,275.05

Daily Average Runs

The following table shows the daily average runs of the Pennsylvania, Lima and Kentucky oil fields for the past four years:

	1926	1927	1928	1929
January	55,630	56,209	52,904	51,749
February	60,394	61,298	57,002	51,833
March	61,644	63,247	57,485	54,252
April	63,019	60,927	56,812	58,444
May	60,580	60,284	62,067	59,902
June	61,121	62,757	58,230	58,833
July	63,206	58,674	57,144	.....
August	61,815	60,870	57,745	.....
September	64,639	60,285	53,487	.....
October	161,132	147,080	58,100	.....
November	67,774	57,275	53,565	.....
December	58,755	52,089	52,025	.....

Daily Average Shipments

The following table gives daily average shipments from the Pennsylvania, Lima and other fields for the past four years:

	1926	1927	1928	1929
January	156,056	141,227	146,465	165,721
February	159,488	138,534	167,368	159,387
March	150,239	133,777	158,883	161,474
April	152,374	140,227	172,935	169,737
May	160,998	144,594	180,559	184,281
June	160,267	149,772	188,024	185,404
July	160,045	151,850	189,470	.....
August	151,929	138,653	192,853	.....
September	158,915	144,213	194,138	.....
October	161,132	147,036	176,000	.....
November	172,608	150,975	176,898	.....
December	136,428	144,504	173,572	.....

Gross Stocks

In the following table will be found the gross stocks of the various lines of the Pennsylvania, Lima and Kentucky oil fields, including oil received from other lines at the close of each month for the past three years:

	1927	1928	1929
January	9,718,008	12,276,710	7,596,564
February	10,119,162	12,180,419	8,738,835
March	10,794,044	12,239,725	9,002,058
April	11,112,295	11,740,125	8,978,172
May	11,359,381	11,692,468	8,903,560
June	11,493,673	11,287,678	8,921,275
July	11,458,128	10,819,331	.....
August	11,989,115	10,236,743	.....
September	12,212,716	9,660,910	.....
October	12,047,661	9,229,709	.....
November	11,939,740	8,366,553	.....
December	12,340,297	7,539,555	.....

Franklin Pipe Co.

The following table exhibits the condition of the Franklin Pipe Line at the close of business for the months named and not counted in the stocks and averages reported above:

	Runs	Shipments	Stocks
1928—			
June	3,153.08	2,779.02	17,922.58
July	2,902.50	3,628.02	17,197.06
August	2,874.11	2,350.13	17,721.04
September	2,820.31	5,255.42	15,285.93
October	1,289.93	538.89	17,551.93
November	1,663.53	788.47	19,426.99
December	3,053.60	3,167.53	19,426.99
1929—			
January	2,099.90	.....	19,313.06
February	2,469.47	6,873.20	17,009.23
March	3,330.82	3,595.01	16,745.04
April	4,864.07	4,243.59	17,365.52
May	2,688.59	2,455.54	17,598.57

The Illinois Field

The following table gives the report of the Illinois Pipe Line Co. in Illinois:

Gross stocks, July 1	2,538,116.68
Runs from wells	543,196.34
Other receipts	664,331.85
Regular deliveries	776,354.88
Other deliveries	352,697.17

The amount of Illinois oil run by the Tidewater Pipe Co. in June was 25,258.36 bbls. Deliveries were 42,491.09 bbls. Adding these figures to those of the Illinois Pipe Line Co. makes the runs and deliveries as follows:

	Runs	Deliveries
1928—		
July	612,286.49	565,678.37
August	639,074.85	671,864.02
September	570,307.91	737,293.50
October	626,147.64	626,290.40
November	576,332.88	702,589.93
December	584,633.00	491,517.26
1929—		
January	570,727.38	545,084.66
February	517,330.17	503,387.70
March	728,319.67	586,049.60
April	515,374.27	654,297.96
May	608,981.60	673,812.83
June	568,454.70	818,845.97

Tidewater Pipe Co., Ltd., also delivered in June 103,920.66 bbls. Oklahoma oil.

AVERAGE DAILY RECEIPTS OF CALIFORNIA OIL AT ATLANTIC AND GULF COAST PORTS

Average bbls per day—	Atlantic Ports: Baltimore	Boston	New York	Philadelphia	Others	Total	Gulf Coast Ports: Galveston	New Orleans Port Arthur Baton Rouge Sabine Pass	Tampa	Total	Total all ports
January	15,838	.. ..	16,676	11,838	7,938	52,290	.....	.....	.....	5,161	57,451
February	14,214	..	38,750	17,260	11,607	81,821	.....	.....	.....	3,750	85,571
March	19.903	968	31.258	18.581	7.365	78.065	.....	.....	.....	.....	78.065
April	16,667	.....	32,333	13,233	2,334	64,467	.....	.....	.....	7,333	65,200
May	16,226	2,416	31,326	10,806	2,129	62,903	.....	.....	.....	.....	62,903
June	14,866	3,167	23,100	10,300	6,100	57,533	.....	.....	.....	.....	57,533

AVERAGE DAILY IMPORTS OF PETROLEUM AT PRINCIPAL UNITED STATES PORTS

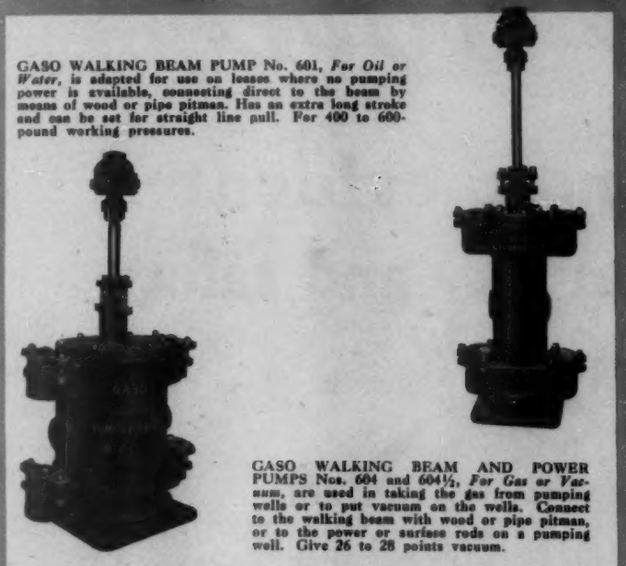
Average bbls per day—	Atlantic Ports: Baltimore	Boston	New York	Philadelphia	Others	Total	Gulf Coast Ports: Galveston	New Orleans Port Arthur Baton Rouge Sabine Pass	Tampa	Total	Total all ports
January	11,936	3,903	130,065	34,871	16,709	201,434	.....	34,808	4,093	1,287	40,193	241,677
February	13,750	16,071	135,179	33,750	17,893	216,643	.....	34,537	321	143	35,321	249,964
March	18,548	26,064	146,516	39,163	28,163	257,452	.....	42,551	2,322	.....	44,903	302,355
April	19,733	18,367	137,233	50,267	22,567	248,167	6,867	25,066	10,367	1,500	43,800	291,967
May	29,806	19,258	138,000	49,936	22,322	259,322	6,677	36,322	3,000	1,323	37,323	296,645
June	31,433	8,667	134,600	42,967	18,300	235,967	8,600	22,633	11,800	2,033	45,066	281,033

GROSS PRODUCTION IN THE UNITED STATES FOR 12 MONTHS (REVISED)

(In barrels of 42 gallons)

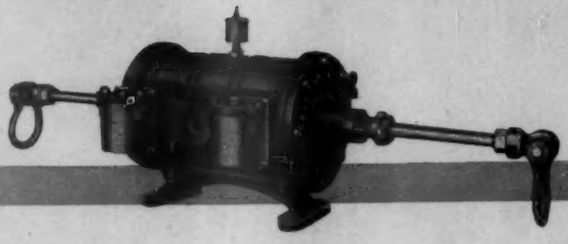
1928-29		California	Oklahoma	Texas	Kansas	Arkansas	Louisiana	Rocky Mts.	Eastern	Total
July:	Month	19,754,458	18,809,188	22,055,737	3,171,548	2,792,139	2,238,090	2,492,536	3,487,000	74,800,746
	Daily average	637,241	606,748	711,475	102,308	90,069	72,131	80,406	112,484	2,412,927
August:	Month	19,444,899	20,840,804	22,339,131	3,147,058	2,711,787	1,989,264	2,561,840	3,556,000	76,590,783
	Daily average	627,255	672,284	720,443	101,518	87,477	64,170	82,640	114,709	2,470,670
September:	Month	18,908,169	22,456,860	21,554,269	3,047,250	2,540,070	1,830,225	2,432,430	3,229,000	75,998,273
	Daily average	630,272	748,562	718,207	101,575	84,669	61,007	81,047	104,300	2,533,279
October:	Month	19,430,992	23,431,071	22,176,853	3,058,460	2,652,484	1,836,221	2,571,822	3,612,000	78,769,903
	Daily average	626,806	755,841	715,376	98,660	85,564	59,233	82,962	116,516	2,540,964
November:	Month	19,907,526	22,078,680	20,791,798	2,977,800	2,476,080	1,801,914	2,388,870	3,348,000	75,770,668
	Daily average	663,584	735,956	693,059	99,260	82,536	60,064	79,629	111,600	2,505,689
December:	Month	21,574,703	22,425,722	22,180,102	2,988,400	2,521,571	1,846,841	2,289,040	3,581,000	79,407,379
	Daily average	695,958	723,410	715,487	96,400	81,341	59,576	73,840	115,516	2,561,528
January:	Month	23,385,939	22,575,874	23,412,226	2,861,641	2,453,526	1,807,887	2,076,070	3,439,000	82,012,163
	Daily average	754,385	728,254	755,233	92,311	79,146	58,318	66,970	110,936	2,645,554
February:	Month	22,300,707	20,464,164	20,816,209	2,557,968	2,154,194	1,569,930	1,965,656	3,113,000	74,941,228
	Daily average	796,454	730,863	743,484	91,356	76,936	56,068	70,202	111,184	2,676,472
March:	Month	24,324,729	20,838,262	24,358,592	2,951,076	2,303,724	1,756,153	2,195,823	3,586,000	82,314,359
	Daily average	784,669	672,202	784,669	95,196	74,314	56,650	70,838	115,677	2,655,302
April:	Month	23,295,060	20,235,290	23,493,097	3,112,740	2,188,680	1,702,479	2,085,030	3,524,000	79,636,376
	Daily average	776,502	674,513	783,103	103,758	72,956	56,750	69,501	117,467	2,654,546
May:	Month	24,053,351	21,345,453	24,439,101	3,665,099	2,220,158	1,713,261	2,252,522	3,879,000	83,617,945
	Daily average	775,915	688,563	789,965	118,229	71,618	55,267	72,662	125,129	2,697,353
June:	Month	24,624,627	20,561,112	24,698,029	3,636,150	2,112,270	1,699,581	2,180,752	3,887,000	83,399,521
	Daily average	820,821	685,371	823,267	121,205	70,327	56,652	72,692	129,567	2,779,984
	Total 12 Months	261,005,160	256,062,480	272,365,144	37,175,190	29,126,683	21,791,846	27,492,441	42,241,000	947,259,344
	Daily average	715,083	701,541	746,207	101,850	79,799	59,704	75,322	115,729	2,595,231

There is a GASO Pump for every purpose using any available power



GASO WALKING BEAM PUMP No. 601, *For Oil or Water*, is adapted for use on leases where no pumping power is available, connecting direct to the beam by means of wood or pipe pitman. Has an extra long stroke and can be set for straight line pull. For 400 to 600-pound working pressures.

GASO WALKING BEAM AND POWER PUMPS Nos. 604 and 604½, *For Gas or Vacuum*, are used in taking the gas from pumping wells or to put vacuum on the wells. Connect to the walking beam with wood or pipe pitman, or to the power or surface rods on a pumping well. Give 26 to 28 points vacuum.



GASO RODLINE PUMP No. 201 is a simple, easily operated pump for general service. It is used in connection with the rod or shackle line between the power and well, or connected to the power direct with a pitman.

As Oil Industry pump specialists, we offer a *complete* line of pumps designed specifically for super service under the exacting conditions encountered in the Industry.

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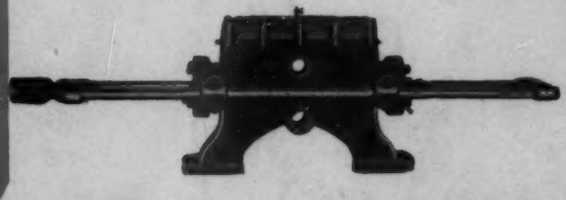
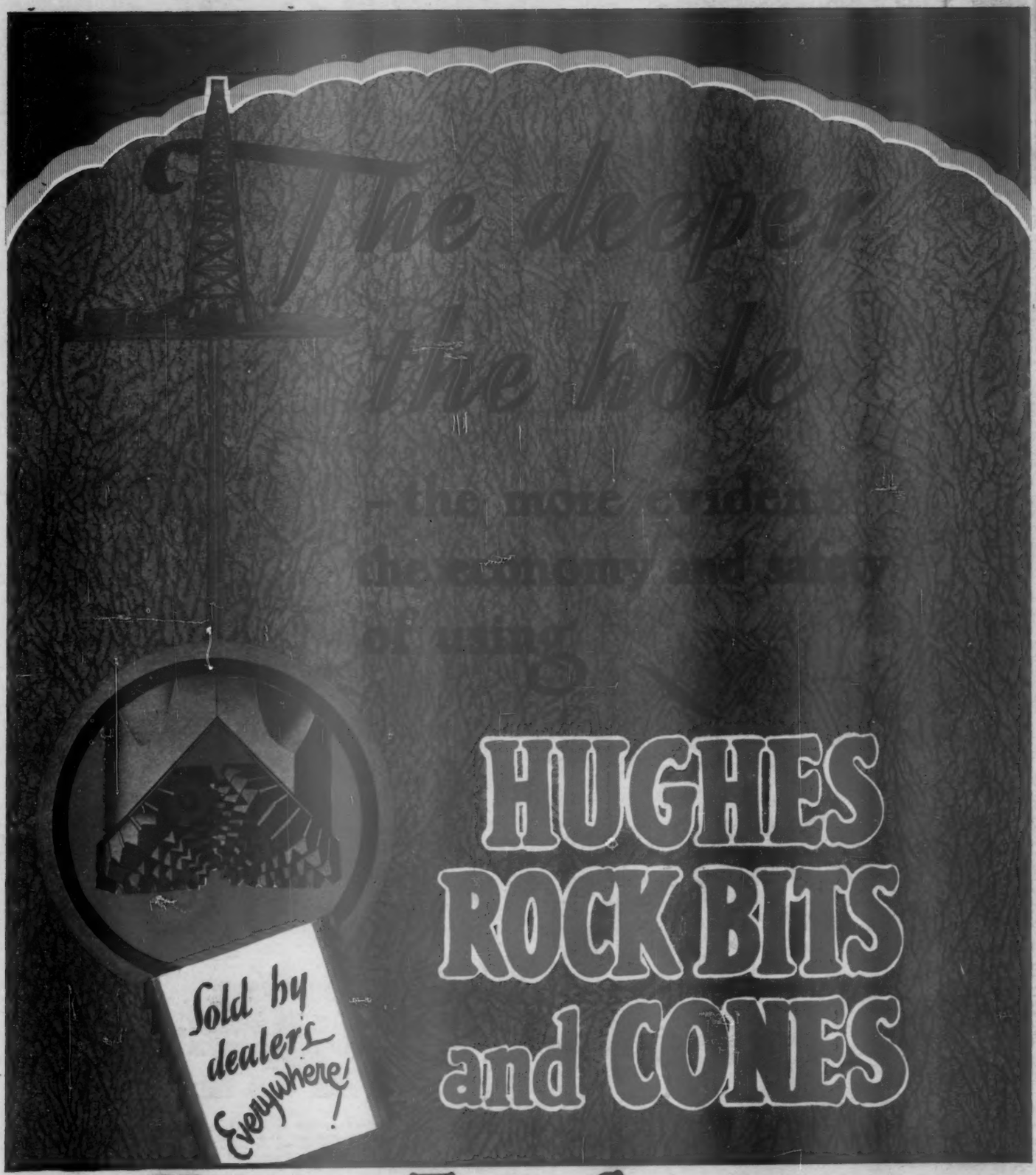


GASO PISTON POWER PUMP No. 301 (Jerker Pattern) is designed for the high pressure of main pipe lines, usually above 600 pounds, and is equally suitable for lease service, or any other low pressure work around refineries or pipe line stations where push and pull or crank power can be utilized. 750 to 300 pounds working pressure.

GASO PUMPS
for every oil industry need



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